

AUTOMAR IV CORPORATION

1025 Thomas Jefferson Street, N.W.  
Suite 308  
Washington, D.C. 20007

November 6, 1986

HAND DELIVERED

Northwest Marine Iron Works  
555 North Channel Avenue  
Portland, Oregon 97217

Attention: William H. Zavín II, President

Gentlemen:

Reference is made to the Contract dated July 3, 1986 between Northwest Marine Iron Works and Automar IV Corporation ("Automar") for the conversion of the M/V PARALLA (the "Vessel"). We have been advised by certain of your subcontractors that they claim a lien against the Vessel for work performed by them pursuant to their subcontracts with you. Article 23 of the above Contract requires that you secure the release of such liens.

The liens that have been asserted are as follows:

Grand Metal Works	\$ 38,000.00
Port of Portland	\$570,270.59

We can confirm the statement made by your counsel, Mr. Kennedy, to me on Wednesday, November 5, 1986, that the Vessel has been arrested by the U.S. Marshal, acting on behalf of the Port of Portland, and is now in his custody.

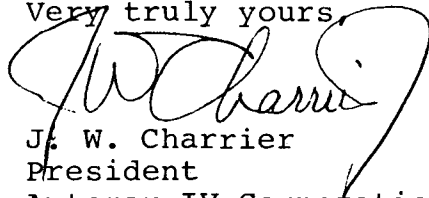
We demand that you immediately secure the release of the Vessel from this arrest and that you pay all suppliers and subcontractors all amounts due them on account of work performed on the Vessel.

Northwest Marine Iron Works  
November 6, 1986  
Page 2

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Automar IV has paid you \$6.8 million for work done on the Vessel which is the total amount now owing to you and which should have been used to pay such suppliers.

Very truly yours,

A handwritten signature in dark ink, appearing to read "J. W. Charrier", written over the typed name.

J. W. Charrier  
President  
Automar IV Corporation

/jm



**AN APPRAISAL REPORT**

for

Mr. William Zavin  
Northwest Marine Iron Works  
5555 N. Channel Avenue  
Portland, Oregon 97217

**14.37 ACRES/BUILDINGS/MACHINERY  
N. DOLPHIN ST. & N. LAGOON AVENUE  
PORTLAND, OREGON**

by

Gerald L. Curtis, MAI  
Richard A. Kaufman, ASA  
CURTIS, SLOCOM & JORDAN, INC.

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CURTIS, SLOCUM & JORDAN, INC.  
REAL ESTATE CONSULTANTS & APPRAISERS

March 20, 1986

Gerald L. Curtis, MAI  
Patrick C. Jordan, MAI  
John E. Slocum, MAI  
Stephen T. Smith, MAI

Robert L. Hickok  
Anthony J. Morton  
Donald L. Singer

Mr. William Zavlin  
5555 N. Channel Avenue  
Portland, Oregon 97217

Dear Mr. Zavlin:

At your request, we have made an appraisal of a 14.37-acre site, building and equipment located upon that site. The site is located in the Swan Island Industrial Park at the southwest corner of N. Dolphin Street and N. Lagoon Avenue, Portland, Oregon. The site size described above is an estimate taken from the records of the Multnomah County Assessor's Office and is subject to a survey for verification.

The purpose of this appraisal is to estimate and report our opinion of the market value for the subject property as an operating entity. The subject is assumed to be developed to its highest and best use as dedicated. The opinion of the market value of the subject property is in terms of the price on which a willing and well-informed seller and a willing and well-informed buyer would agree, in the absence of any extraordinary compulsion on either's part, and after reasonable exposure of the property on the open market.

This report has been prepared in conformance with the Federal Home Loan Bank Board Memorandum R41b.

In order to make this appraisal, we have made a detailed inspection of the subject property and have observed land uses and trends of land uses in the immediate and general area, and have investigated sales in which comparable and competitive facilities were involved.

Subject to the aforementioned assumptions, we have estimated the fair market value of the subject property, as of March 20, 1986, is:

Land	\$ 2,012,000
Real Property Improvements	8,509,700
Personal Property Assets and Other Assets	6,481,230

**SEVENTEEN MILLION DOLLARS**

**\$17,000,000**

March 20, 1986

This report is subject to the Contingent Conditions, Limiting Conditions, and Special Assumptions and Certificate of Appraisal enclosed in the Addenda of this report. This report has been made in conformity with, and is subject to, the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers.

The AIREA requires each member to control the use and distribution of each signed report. Among other restrictions, it prohibits the distribution of only selected portions of the report, and it prohibits dissemination of all or part of a report to the general public by use of the public media or private promotional media, without the prior written consent of the signatories.

The undersigned has no personal interest, either present or contemplated, in the subject property, and certifies that no fee, received or to be received, or the employment of his services is in any way contingent upon the opinion reported herein.

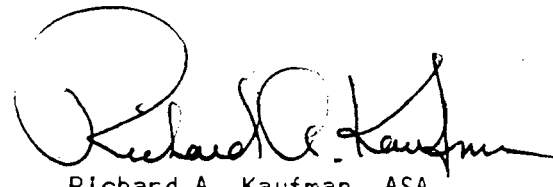
Respectfully submitted,

CURTIS, MACKENZIE & SLOCOM, INC.

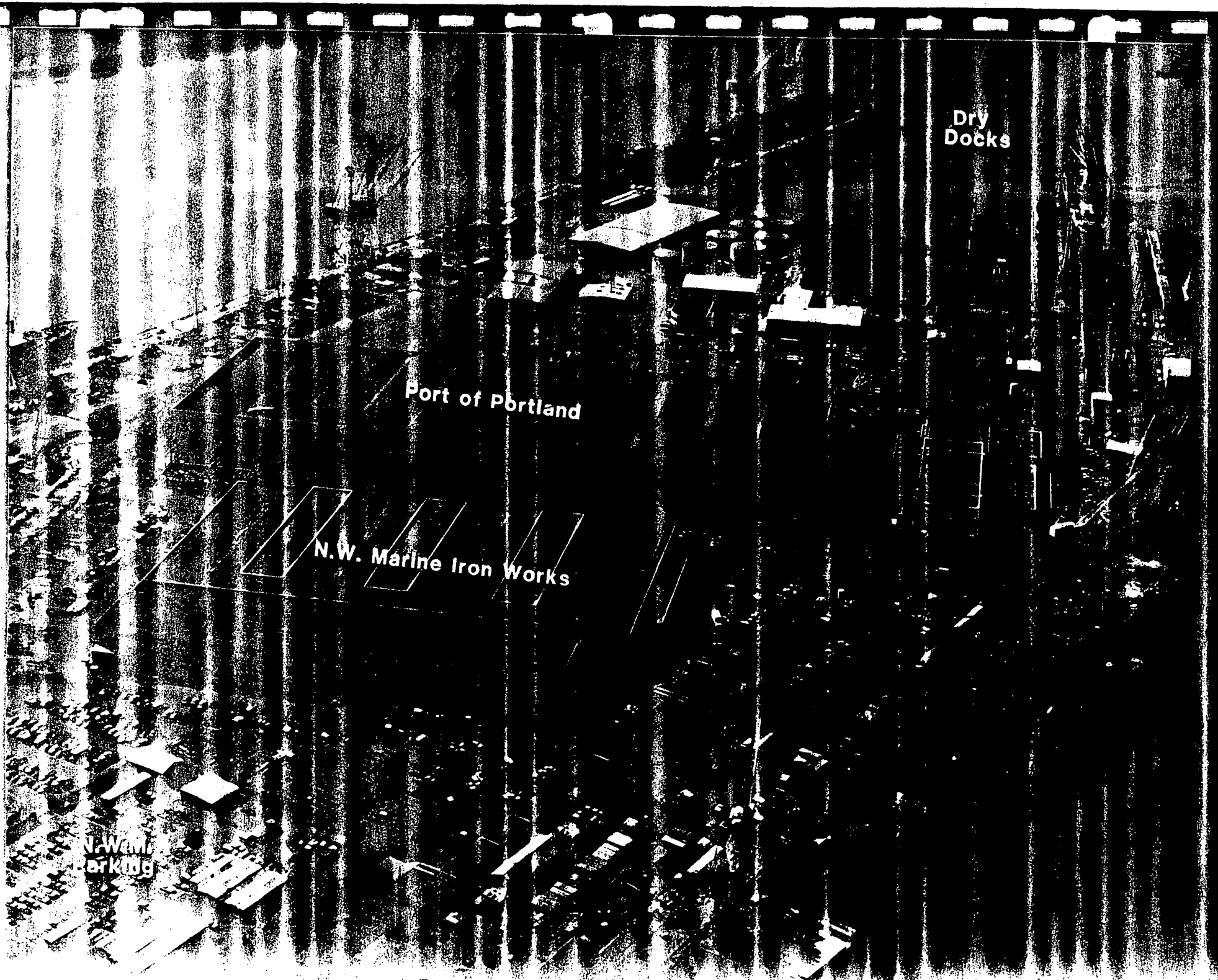


Gerald L. Curtis, MAI

clm



Richard A. Kaufman, ASA



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**SUMMARY OF SALIENT FACTS**

Subject Property: 5555 N. Channel Avenue, Portland, Oregon.  
Northwest Marine Iron Works ship repair facility.

Legal Description: Tax Lots 73 and 89, Section 17, Range 1 North, Township 1 East, County of Multnomah, State of Oregon.

Purpose of the Appraisal: To estimate the value in exchange of the subject property, taking into consideration its highest and best use and its dedicated use.

Site: 14.37 acres zoned M-2 (General Manufacturing).

Improvements: 293,937 square foot, steel frame manufacturing facility divided into 12 bays with 14,800 square feet of offices. The structure was constructed in 1942, remodeled and added to in 1969, and extensively refurbished in 1983.

Assessed Value and Taxes:	Land	\$ 1,610,000
	Improvements	3,842,330
	Equipment	<u>2,051,650</u>
	Total	\$ 7,503,980
	Taxes:	\$ 192,701

Highest and Best Use: As developed.

Value by Cost Approach:	Land	\$ 2,012,000
	Improvements	8,509,700
	Machinery & Equipment	<u>6,481,230</u>
	Total (R/O)	\$17,000,000

Value by Market Approach:	Continued Marine Repair (R.E. and M. & E.)	\$17,000,000
	General Fabrication (R.E. and M. & E.)	\$14,060,000

Value Conclusion (Real Estate and Machinery and Equipment): \$17,000,000

Date of Valuation: March 20, 1986

Appraisers: Gerald L. Curtis, MAI  
Richard A. Kaufman, ASA

**PURPOSE OF APPRAISAL**

The purpose of this appraisal is to estimate the fair market value of the subject property. The definition of market value is:

"The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

"Fundamental assumptions and conditions presumed in this definition are:

1. Buyer and seller are motivated by self-interest.
2. Buyer and seller are well informed and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash, its equivalent, or in specified financing terms.
5. Specified financing, if any, may be the financing actually in place or on terms generally available for the property type in its locale on the effective appraisal date.
6. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report."

[AIREA, The Appraisal of Real Estate, Eighth Edition (Chicago, 1983), p. 33]

**FUNCTION OF APPRAISAL**

To assist the property owner with financing.

**PROPERTY RIGHTS APPRAISED**

The property rights appraised constitute the unencumbered fee simple interest of all future benefits that may be derived from the property's present or possible use.

**DATE OF APPRAISAL**

March 20, 1986



**LEGAL DESCRIPTION**

The legal description for the subject is as follows:

**Parcel 1**

The subject site has been divided into two separate tax lots by the Multnomah County Assessor's Office. The tax Lot Identification number for the first parcel is: Tax Lot 89 Section 17, Township 1 North Range 1 East. The metes and bounds description for this parcel is as follows:

A parcel of land in the S.W. 1/4 of Section 17, Township 1 North, Range 1 East, Willamette Meridian, Multnomah County, Oregon, described as follows:

Beginning at a point on the Southerly line of North Lagoon Avenue, said point being 399.98 feet North of and 2969.01 feet West of the S.E. corner of said Section 17; thence along the arc of a 38 foot radius curve, Southeasterly, a distance of 59.69 feet to a point; which bears S. 730' E., 53.74 feet from the last described point; thence S. 3730' W., 287.57 feet along the Westerly line of North Dolphin Street; thence N. 5230' W., 462.44 feet; thence N. 1532' E., 351.06 feet to a point on the Southerly line of North Lagoon Avenue; thence S. 5230' E., 555.76 feet along the Southerly line of North Lagoon Avenue to the point of beginning. Containing 3.9399 acres, more or less.

**Parcel 2**

The second parcel has been identified by the Multnomah County Assessor's Office as: Tax Lot 73 Section 17, Township 1 North Range 1 East.

The meets and bounds description for this parcel is as follows:

**Parcel 1**

A parcel of land situated in Section 17, Township 1 North, Range 1 East of the Willamette Meridian, in the City of Portland, County of Multnomah, State of Oregon, bounded and described as follows, to-wit:

Beginning at a point which is 265.89 feet North and 4641.89 feet West of the Southeast corner of said Section 17, which point is also the point of intersection of tangents of the centerline of a 90°48' curve in N. Channel Avenue; thence South 75°18'23" East a distance of 520.55 feet along the centerline of N. Channel Avenue; thence North 15°32'10" East a distance of 40.00 feet to a point on the northerly right-of-way line of N. Channel Avenue which point is the true point of beginning; thence North 15°32'10" East a distance of 934.86 feet; thence South 54°53'50" East a distance of 453.84 feet; thence South 52°30' East, along the southerly right-of-way line of N. Lagoon Avenue a distance of 103.00 feet; thence South 15°32' West a distance of 448.85 feet; thence North 74°28' West a distance of 1.50 feet; thence along a curve having a central angle of 40°08'20" and a radius of 410.87 feet a distance of 316.52 feet to a point on the northerly line of N. Channel Avenue, which point bears South 6°32'10" East a distance of 308.75 feet from the last described point; thence North 75°18'23" West a distance of 637.77 feet along the northerly right-of-way line of N. Channel Avenue to the true point of beginning.

Containing 10.035 acres, more or less, subject to a 15 foot wide sewer line easement heretofore granted to the City of Portland, described as follows:

Commencing at the point of Intersection of the Southwesterly extension of the centerline of N. Commerce Street with the centerline of N. Channel Avenue; thence North  $52^{\circ}30'$  West along the centerline of N. Channel Avenue a distance of 1268.49 feet to a point of curve along the said centerline; thence Northwesterly along a 394.71 foot radius curve to the left, consuming a central angle of  $22^{\circ}48'23''$  along the said centerline a distance of 157.11 feet to a point of tangent on said centerline; thence North  $75^{\circ}18'23''$  West along said centerline a distance of 219.08 feet; thence North  $15^{\circ}49'50''$  East a distance of 40 feet to the northeasterly line of N. Channel Avenue and the true point of beginning of the strip herein described, thence continuing North  $52^{\circ}30'$  West, 1911.42 feet from the Intersection of the southwesterly line of N. Lagoon Avenue with the centerline of N. Commerce Street, all in the City of Portland, County of Multnomah and State of Oregon.

Parcel 3

A parcel of land situated in Section 17, Township 1 North, Range 1 East, of the Willamette Meridian in the City of Portland, County of Multnomah, State of Oregon, bounded and described as follows, to-wit:

Beginning at a point 830.40 feet North and 3464.23 feet West of the Southeast corner of Section 17; thence South  $37^{\circ}30'$  West, 30.00 feet to the true point of beginning; thence continuing South  $37^{\circ}30'$ ; West, 22.19 feet; thence North  $54^{\circ}53'50''$  West, 453.84 feet along the North boundary of the property deeded to Schnitzer Realty Co. by warranty deed dated June 30, 1967, Book 569, page 49, Multnomah County Deed Records; thence North  $15^{\circ}32'10''$  East, 14.01 feet; thence along a curve right having a radius 788.51 feet, the chord of which bears South  $58^{\circ}16'06''$  East, a distance of 158.78 feet; thence South  $52^{\circ}30'$  East, 323.19 feet to the true point of beginning.

**TAXES AND ASSESSMENT**

The subject property has been identified by the Multnomah County Assessor's Office as Tax Lot 73 and 89, Section 17, Township 1 North, Range 1 East, County of Multnomah, State of Oregon. The proposed taxes for the 1986 tax year are as follows:

**Account No. 94117-0730****True Cash Value and Taxes**

Land	\$1,168,000.00
Taxes	29,994.24

**Sub-account No. 94117-0731**

Buildings and structures	\$3,800,000.00
Taxes	97,584.00

**Sub-account No. 94117-0732**

Machinery and Equipment	\$2,051,650.00
Taxes	52,686.38

**Account No. 94117-0890**

Land	\$ 442,000.00
Taxes	11,350.56

**Sub-account No. 94117-0891**

Buildings and structures	\$ 42,330.00
Taxes	1,087.04

The subject property has an estimated True Cash Value for land, improvements and selected equipment of \$7,503,980. The taxes are \$192,651.

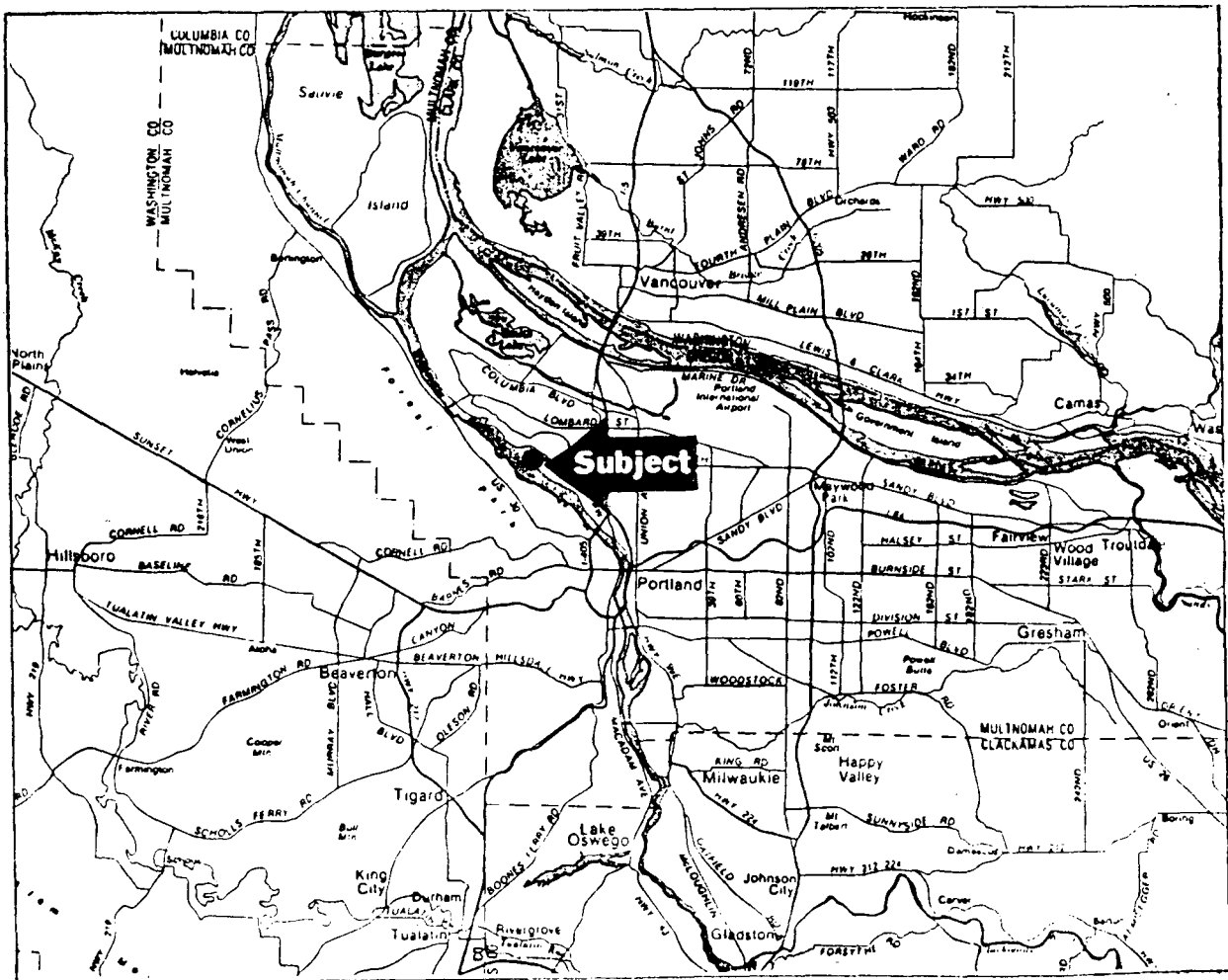
## REGIONAL DESCRIPTION

### Location

The area is generally situated in northwest Oregon and an adjacent portion of southwest Washington, in the Pacific Northwest region of the United States. It is more specifically located 100 miles inland from the Pacific Ocean, on the Willamette River near its confluence with the Columbia River. The Columbia River forms the boundary between the states of Oregon and Washington. Both the Columbia and Willamette Rivers are large enough to accommodate deep-draft ships. Mount Hood, located a few miles to the east, is an inactive volcano and the highest point in Oregon. The region is commonly known as the Portland metropolitan area.

### Political Boundaries

The Portland metropolitan area is composed of 39 cities and unincorporated areas located in four Oregon counties (Clackamas, Multnomah, Washington and Yamhill) and one Washington county (Clark). The largest cities in the area are Portland (370,730), Gresham (34,375) and Beaverton (33,050) in Oregon, and Vancouver (43,850) in Washington.



## REGIONAL DESCRIPTION (Continued)

**Economic Base**

The metropolitan area has a large and diverse economic base. Its location and excellent transportation system have contributed to making it a leading wholesale trade and distribution center. Its location is centralized between the large metropolitan areas of Seattle to the north, San Francisco to the south and the many communities of the Interior Pacific Northwest. The major components of the transportation system include: Interstate 5 provides north-south access and Interstate 84 provides access to the east; several railroads furnish freight service; Portland International Airport supplies passenger and freight/package air service; large, modern port facilities and easy access to the Pacific Ocean via the Columbia River, and inland transportation by barge on the Columbia, make the area an attractive seaport.

Portland metropolitan area ranks as the 35th largest in manufacturing activity, with .57% of the total U.S. revenue for output of all manufacturing establishments with 20 or more employees. Among the area industries prominent in the U.S. marketplace are production of industrial trucks and tractors (4.15% of total U.S. output) and steel foundries (3.88%) in Multnomah County, hand saws and saw blades (12.48%) in Clackamas County, electricity-measuring instruments (9.30%) in Washington County, and primary aluminum (5.56%) in Clark County.

The area ranks 33rd in the U.S. for total retail sales, with \$7,789,731,000. This is projected to grow 56.4% to \$12,180,492,000 by 1989.

**Population**

The Portland metropolitan area had a population of 1,242,600 in 1980. By 1984 the population was estimated to be 1,348,800, which made it the 32nd most populous market area in the United States. The population is projected to grow 3.7% to 1,399,300 in 1989. The median age of the population is 31.5 years.

**Employment**

Employment was at an all time high of 620,000 in 1980 after a 4.4% annual increase since 1975. Employment declined to 584,900 in 1983, a -.88% annual decrease from the 1980 level. Total employment is estimated to be 612,800 in 1985, a 2.35% annual increase over 1983. The annual growth rate for employment is forecasted to be 2.31% through 1990, when total employment is expected to be 686,900. Employment growth will be focused in the Research and Development- based electronics (6.76% annually), transportation equipment (5.75% annually), and fabricated metals (3.87% annually) industries, and the service (2.42% annually) and trade (2.30% annually) sectors. Employment in agriculture declined (-1.19% annually) between 1970 and 1983. This negative trend is expected to continue. Agricultural employment was 10,400 in 1970 and projected to be only 7,900 by 1990.

# BUSINESS INDEX

## REAL ESTATE ROUNDUP

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March 1986

# **E C O N O M I C      R O U N D U P**

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## REGIONAL DESCRIPTION (Continued)

ELEVEN LARGEST PRIVATE EMPLOYERS  
IN THE PORTLAND METROPOLITAN AREA (1985)

Firm	Product	No. Employees
Tektronix	Electronic Equipment	13,891
Fred Meyer	Retail Variety Chain	5,200
Crown Zellerbach	Forest Products	4,300
Healthlink	Health Care	4,275
Kaiser-Permanente	Health Maintenance Organization	4,069
U.S. Bancorp	Bank and Holding Co.	3,878
Pacific Northwest Bell	Telecommunications	3,657
Intel	Processing Manufacturer	3,250
Portland General Electric	Electric Utility	3,123
First Interstate Bank	Bank	3,081
N.W. Marine Iron Works	Ship Yard	1,200

(Source: The Business Journal)

**Income**

The total disposable income (personal income less personal tax and non-tax payments) was estimated to be \$15.2 billion in 1984, and forecasted to expand 76.9% to \$26.8 billion in 1989. The average household disposable income was estimated to be \$29,110 in 1984 and projected to be \$49,099 in 1989. This compares to the estimated average disposable income for the entire U.S. of \$29,640 in 1984 and \$45,959 in 1989.

**Tax Structure**

The State of Oregon has an income tax which ranges from 4% to 10% of taxable personal income. This is the third highest rate in the nation. The principal local tax is an ad valorem property tax which ranges from 1.5% to 2.5% of market value, the eighth highest rate in the nation. Oregon has no sales tax. Total taxes in Oregon rank as tenth highest in the U.S.

**Summary**

The large and diverse economy of the Portland metropolitan area should provide a stable, growing environment that will continue to attract new business and industry. The growth is controlled by responsible local and regional government, and there seems to be some success at maintaining and improving the area's "quality of life." Population, employment and income are all forecasted to remain as healthy as the U.S. economy through 1990 and beyond.



## NEIGHBORHOOD DESCRIPTION

The subject property is located in the Swan Island Industrial Park, which is approximately four miles north of the central business district and within the city limits of Portland. Swan Island Industrial Park contains 565 gross acres. The overall Industrial park consists of 260 acres on Swan Island and the balance on the mainland. Some sites are available with water frontage.

Swan Island is now a peninsula, but in the 1800s it was actually an island in the Willamette River. The main channel now lies west of the island but in the late 1800s was on its east side. In 1921 Swan Island was acquired by the Port of Portland in order to change the main channel from the east side of the island to the west side. The new channel was dredged and the soil used to connect Swan Island to the east shore, creating a peninsula. During the 1920s, the first airport in the area was placed upon the peninsula, and was used for commercial aviation until 1935. The Federal government advised the Port at that time that there were flaws in the design of the airport and suggested that a new airport be constructed.

During World War II, Swan Island was turned over to the Kaiser Shipbuilding Interests, and shipyards were constructed on the island. In 1948, the Port of Portland purchased the shipbuilding facilities from Kaiser, and began development of the industrial park. The majority of the present improvements in the park were constructed in the 1960s. In 1979 a major expansion of the ship repair yard was completed, including the largest floating dry dock facility on the west coast, and 8,200 feet of ship repair and idle ship berths. This facility is different than any other facility on the west coast in that the public owns and operates the shipyard and leases its use to private ship repair contractors. This helps to make Portland a highly competitive ship repair center. The subject property is a privately owned facility located within the publicly owned ship repair facility, although it does have frontage outside the facility on city streets. Sites in the area are zoned M-2. In addition to most types of manufacturing, these zones permit warehousing, distribution and terminal operations. Development and performance standards pertaining to landscaping, setbacks, architecture, parking design, air quality and other factors have been designated to allow a successful integration of industries into the environment.

## Zoning

Sites are zoned M-2, which is designated as a general manufacturing zone. In addition to most types of manufacturing, this zone permits warehousing, distribution and terminal operations. Development and performance standards pertaining to landscaping, setbacks, architecture, parking design, air quality, and other factors, have been designated to allow a successful integration of industries into the environment. Controls are not intended to inhibit growth, and the goal is to preserve the environment assets that make Swan Island a long range protected investment for tenants.

**NEIGHBORHOOD DESCRIPTION (Continued)****Transportation - Rail**

A Union Pacific line runs through the Industrial park, which is adjacent to the Union Pacific Albina Yard and Terminal, a major intermodal station for the Pacific Northwest. Connecting services are furnished within Portland to the Burlington Northern and Southern Pacific Railroads through reciprocal switching arrangements. Each of the above companies has major marshalling yards in the immediate area, and with the reciprocal switching agreements between the railroads there are no switching charges to users for line haul movements.

**Highways**

Direct access to Metropolitan Portland's freeway network is provided from the Mock's Landing and Swan Island Industrial Parks to the north/south Interstate 5 Freeway, less than two miles east of the subject site. I-5 connects to the main east/west Interstate 84 within five minutes driving time from the park. The area is served by 100 truck lines, with the major terminals of a number of these located within the Swan Island Industrial Park.

**Water Transportation**

Swan Island Industrial Park is located within the central Portland harbor. Portland is an international seaport with more than 12 million tons of cargo passed across its docks during 1980. It is the largest export tonnage port on the west coast, and the third largest in total import/export tonnage. Approximately 1,400 ships load and discharge cargo at Port docks each year, and more than 20 regular schedule steamship lines serve the city. There is a channel from the Pacific Ocean up the Columbia River to Portland with a depth of 40' and a width of 600', allowing most oceangoing ships access. In addition, barge service is available on the Columbia River all the way to Lewiston, Idaho approximately 340 miles inland.

**Utilities**

The city of Portland serves all of Swan Island. The size of the water main to the island is a 12 to 16 inch line, and sewer is provided by a 10 to 24 inch line. Natural gas services to the island and is provided by Northwest Natural Gas Company. Telephone service is provided by Pacific Northwest Bell and Portland General Electric serves the Industrial park.

**Tenants**

Some of the tenants within the Swan Island Industrial Park include Lynden Farms, Sealand Services, Inc., Pacific Supply Corp., Transwestern Express, Oregon-Nevada-California, Inc., Freightliner Corporation's corporate headquarters, Mail Operations Centers, Sears & Roebuck Company, United Parcel Service, Temp-Control Corporation, U.S. Navy and Marine Corp. Reserve Center, Cummins Diesel and Northwest Marine Iron Works.

**NEIGHBORHOOD DESCRIPTION (Continued)**

**Conclusion**

The entire industrial park has been underwritten by the Port of Portland, which gives a substantial benefit to the area financially. Street lighting, road systems, and all forms of development within the park are considered to be first class. With the strict design and landscape requirements, as well as tenant control, the development within the park is considered to be one of the best in the general metropolitan area. Also, there is a history of corporate headquarter facilities in this district similar to the subject, such as Freightliner, H.A. Anderson Co., and Northwest Marine Iron Works.

Further development is expected to occur with the new addition of the Mock's Bottom expansion of the Swan Island development area. This area is expected to mirror the development that has taken place within the Swan Island Industrial Park.

NEIGHBORHOOD DESCRIPTION (Continued)



ENTRY TO THE SWAN ISLAND INDUSTRIAL PARK



ENTRY ROAD (N. LAGOON) TO THE SUBJECT PROPERTY

NEIGHBORHOOD DESCRIPTION (Continued)



SECURITY ENTRY TO THE PORT OF PORTLAND'S SHIP YARD AND N.W. MARINE IRON WORKS



PATENT SCAFFOLD PROPERTY, ADJACENT TO THE SUBJECT

NEIGHBORHOOD DESCRIPTION (Continued)

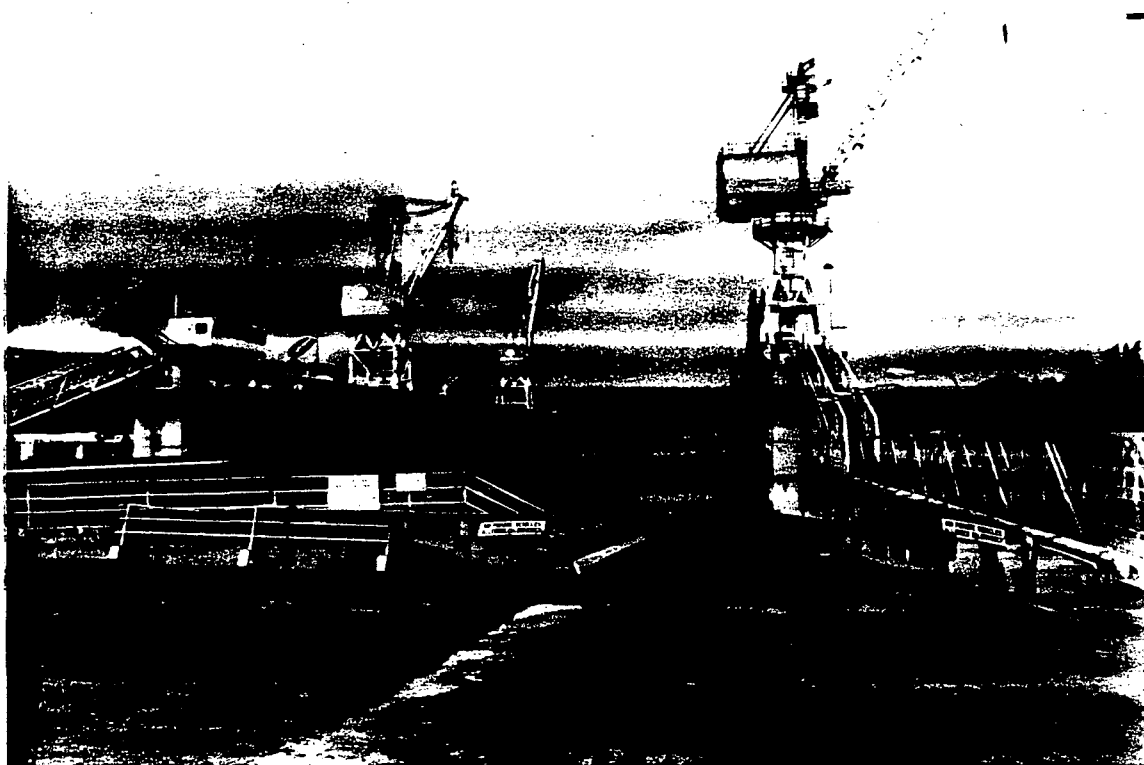


PETERBILT TRUCK PARTS DISTRIBUTION CENTER (SOUTH OF THE SUBJECT)

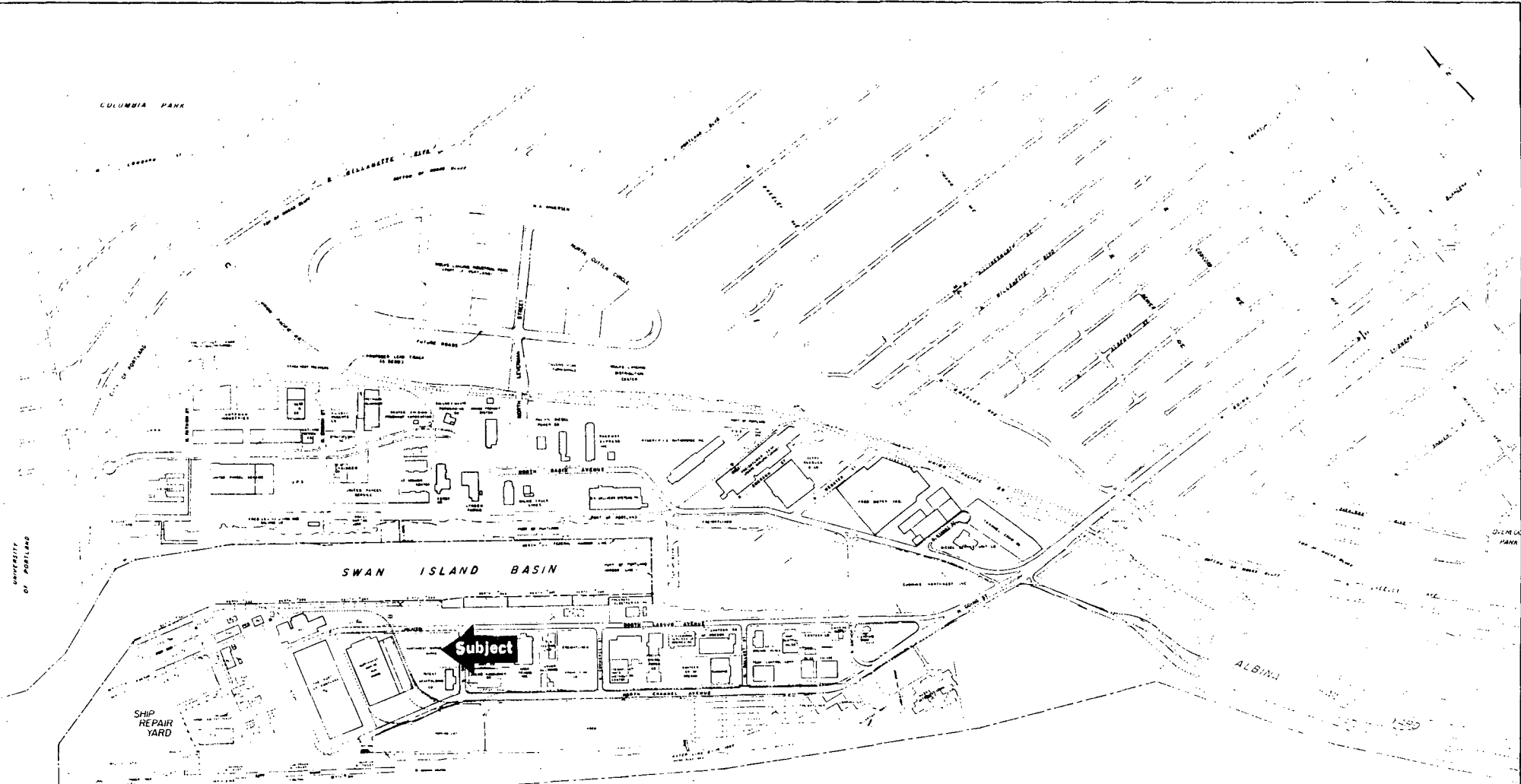


PORT'S TERMINAL FACILITY, ADJACENT TO THE SUBJECT ON THE NORTH

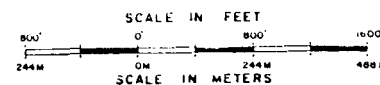
NEIGHBORHOOD DESCRIPTION (Continued)



FLOATING DRY DOCK (LARGEST ON THE WEST COAST)



MOCKS LANDING INDUSTRIAL PARK  
AND  
SWAN ISLAND INDUSTRIAL PARK



SI 85-1



**SITE DESCRIPTION**

**Size:** The subject site contains a total of 14.37 acres.

**Shape:** The subject is L-shaped.

**Accessibility:** The site has 1,138 feet of frontage on N. Lagoon Avenue, 287' of frontage on N. Dolphin Street and 638' of frontage on N. Channel Avenue. There are curb cuts on all three of these streets.

**Abutting Properties:** In the center of the "L" is a property not owned by Northwest Marine Iron Works located on the corner of N. Dolphin Street and N. Channel Avenue. North and west of, and adjacent to, the subject property is the Swan Island Ship Repair Yard of the Port of Portland. They occupy the entire northwest and southwest end of the Island. East of, and across N. Dolphin Street, is Diesel Service Unit Co. and Jacob Hamburger Co. To the north and south of the subject property is vacant land which is owned by the Port of Portland. The land south of, and across N. Channel Avenue, is under development by the Port of Portland. This is the southeast end of the new dry dock facility planned by the Port of Portland.

**Street Improvements:** N. Lagoon Avenue varies in width from 60' to 80' in front of the subject property and inside the Port-fenced area. This street is paved, has concrete curbs, storm drains and adequate street lighting. N. Dolphin Street is a feeder street into N. Channel Avenue and N. Lagoon Avenue. This street is 60' in width and has a macadam cover. The street is supported by concrete curbs and street lighting. N. Channel Avenue is 80' in width and has a macadam cover. It also has concrete curbing and street lighting. The Port controlled gatehouse is at the west end of the subject parcel.

**Utilities:** Rail service is provided by the Union Pacific Railroad. Connection services furnish within Portland to the Burlington Northern and Southern Pacific. This is a free switching area for all the mainline haul movements.

The area is served by Portland General Electric by underground lines. The subject site is served by two transformer stations with a 200 KVA-12,000/480 volt General Electric single phase oil-filled type H, form KD transformer.

## SITE DESCRIPTION (Continued)

The electrical system within the building appears to be adequate for the needs of the overhead cranes and general use throughout the facility.

Other utilities to the site include natural gas, which is supplied by N.W. Natural Gas Company, water from the City of Portland and sewage disposal through 10 to 24 inch lines.

As mentioned previously, during World War II Swan Island developed as a ship building facility. The T-2 Tanker was built. The cranes, piers, shipways and numerous other support facilities were put in place at that time. Two dry docks were in already place, and the Navy added an 18,000-ton dry dock during the war. An additional dry dock was added in 1963, and at 660' long with 112' clear width, it became the largest floating dry dock on the west coast. With the passage of time, Dry Dock No. 3 became outmoded, primarily because of the need to repair larger ships.

## Zoning:

All portions of the industrial park are within the city of Portland and the M-2, general manufacturing zone. See the following Zoning section for additional information.

## Summary:

The subject site is level with street grade and has good utility for its current operation. The site has all the basic amenities desirable for industrial development. The development around the site is homogeneous to its current use and tends to reinforce the general industrial climate of the neighborhood. Generally speaking, the subject site is within one of the most desirable industrial parks in the city of Portland and in a key location for most of the expanding demands of the Port of Portland.

SITE DESCRIPTION (Continued)

ZONING

Development Standards for Swan Island Industrial Park

I. Buildings

A. Design

All buildings shall be designed by an architect or engineer registered in the State of Oregon.

B. Setbacks

1. Front Yard

No buildings will be constructed within 50' of the front property line.

2. Side and Rear Yards

The side yard setback shall be a minimum of 10'.

The rear yard setback shall be a minimum of 10'.

3. Setback Reduction

The front yard setback may be reduced to a minimum of 25', provided that the portion of the building closer than the 50' line shall make a positive contribution to the overall design. The Port will be the sole judge of such design but will, in general, consider office structures, outdoor court areas, and other particularly attractive portions of the main structure as eligible for the modified setback.

4. Railroads

(a) The front yard setback lying between that portion of the building served by a railroad and the property line adjacent to a railroad lead track may be reduced to 27'.

(b) When a railroad right of way is adjacent to the rear property line, the building or any part thereof shall be no closer than 14.5' from the nearest right of way line. The 14.5' strip is to be permanently reserved as a continuous easement along the railroad right of way for use by any company requiring railroad spur service.

(c) The front, rear and side yard setbacks shall be increased when it is necessary to allow space for more than one railroad spur.

SITE DESCRIPTION (Continued)

5. Corner Lots

If the subject property is a corner lot, the Port will designate which is the front property line and which is the side property line.

C. Heights and Lot Coverage

The maximum height of any structure shall be 45'. Building height or any portion thereof within the 50' setback are shall not exceed 20'.

Exceptions to the above height restrictions such as utility structures, tower, etc., will be reviewed by the Port on an individual basis.

The maximum area that may be covered by the principal building, accessory buildings and future additions to either shall not exceed sixty (60) percent of the total area of the lot.

D. Building Materials

Materials shall be appropriate for the use and for the type of structure in which they are used. Tenants are encouraged to use materials indigenous to the local area. Materials that may be used are concrete, architectural metals, exposed aggregate concrete, glass, brick, natural stone, concrete block and wood. All buildings shall be of permanent-type construction. The type, style and color of all exterior wall material shall be submitted to the Port for approval. Trailers, mobile office, and other temporary structures will not be allowed except for use during construction.

E. Roof

The roof area must be fire resistant for a minimum of two hours.

F. Roof Utilities

The Port of Portland will approve the color on all exposed utilities, towers, conveyors, and exposed processing equipment. All roof utilities shall be architecturally screened.

G. Site Layout

Placement of structures on sites shall be carried out in such a manner as to maximize the potential of the individual sites. Provisions shall be made for circulation within the site and the access of emergency vehicles.

SITE DESCRIPTION (Continued)

II. Parking

A. Setbacks

1. Front Yard

There shall be no parking facility closer than 10' to the front property line.

2. Side Yard

No parking facilities shall be closer than 5' to the side property lines.

B. On-Street Parking

No on-site parking will be permitted.

C. Parking Space Requirements

One parking space will be provided for each three employees on the major and next largest shift or two spaces for each three employees on the major shift, whichever is larger. This requirement can be submitted to the Port for review if other modes of transportation are made available to the employees.

D. Parking Lot Layout

The design and layout of all parking lots shall conform with the requirements of the appropriate local ordinances. The basic requirements for layout of a parking lot shall be as follows:

1. Size

(a) Minimum size of lot will be 1,000 square feet.

(b) Maximum size - Large parking areas shall be divided into section containing not more than 60 parking spaces each and divided by 5' landscaped divider strips.

2. Aisle width shall be no less than 25' for 90 degree parking, 20' for 60 degree and 45 degree parking, and 12' for parallel parking.

3. Minimum size for individual parking spaces will be 8.5 by 20' for employees parking in industrial areas, 9.5 by 20' for visitor parking, and 9.5 by 23' for parallel parking. All spaces will have a minimum of 6' 6" of vertical clearance.

SITE DESCRIPTION (Continued)

E. Screening

A 6' high screen shall be maintained to screen all parking from the front property line. Adequate screening shall be interpreted as either natural or architectural material which obscures the line of sight from the street. The parking screening requirement may be combined with the regular setback landscaping requirements. The adequacy of the screening will be determined by the Port.

F. Surfacing

All parking areas shall be paved with a dust-free all weather surface, such as asphaltic paving, be graded and drained to provide for the disposal of all surface water on the site, and of a strength adequate for the traffic expected. All parking stalls and direction of traffic shall be clearly marked on the paved surface.

III. Utilities

A. Location

All utilities shall be brought into the site and to the buildings underground. Pad-mounted electrical transformers shall be located and screened so as to prevent viewing from any public street. Permits shall be obtained for all utilities crossing Port property.

IV. Access

A. Rail Spurs

1. Engineering Specifications

All rail access shall be constructed according to proper engineering specifications and subject to Port approval. A standard No. 9 turnabout and a maximum curvature of 16 degrees is recommended for all spur tracts.

V. Landscape

A. The following landscape requirements are intended for the enhancement of individual tenants sites at the Port's Swan Island Industrial Park to ensure an attractive setting and increased land value.

All landscape drawings submitted for approval by the Port shall be stamped by a landscape drawings submitted for approval by the Port shall be stamped by a landscape architect registered in the State of Oregon. The design of all landscape will be evaluated by the Port for its compatibility with surrounding design, compatibility to the local environment and extent to which it satisfied screening

## SITE DESCRIPTION (Continued)

requirements.

B. Front Setbacks

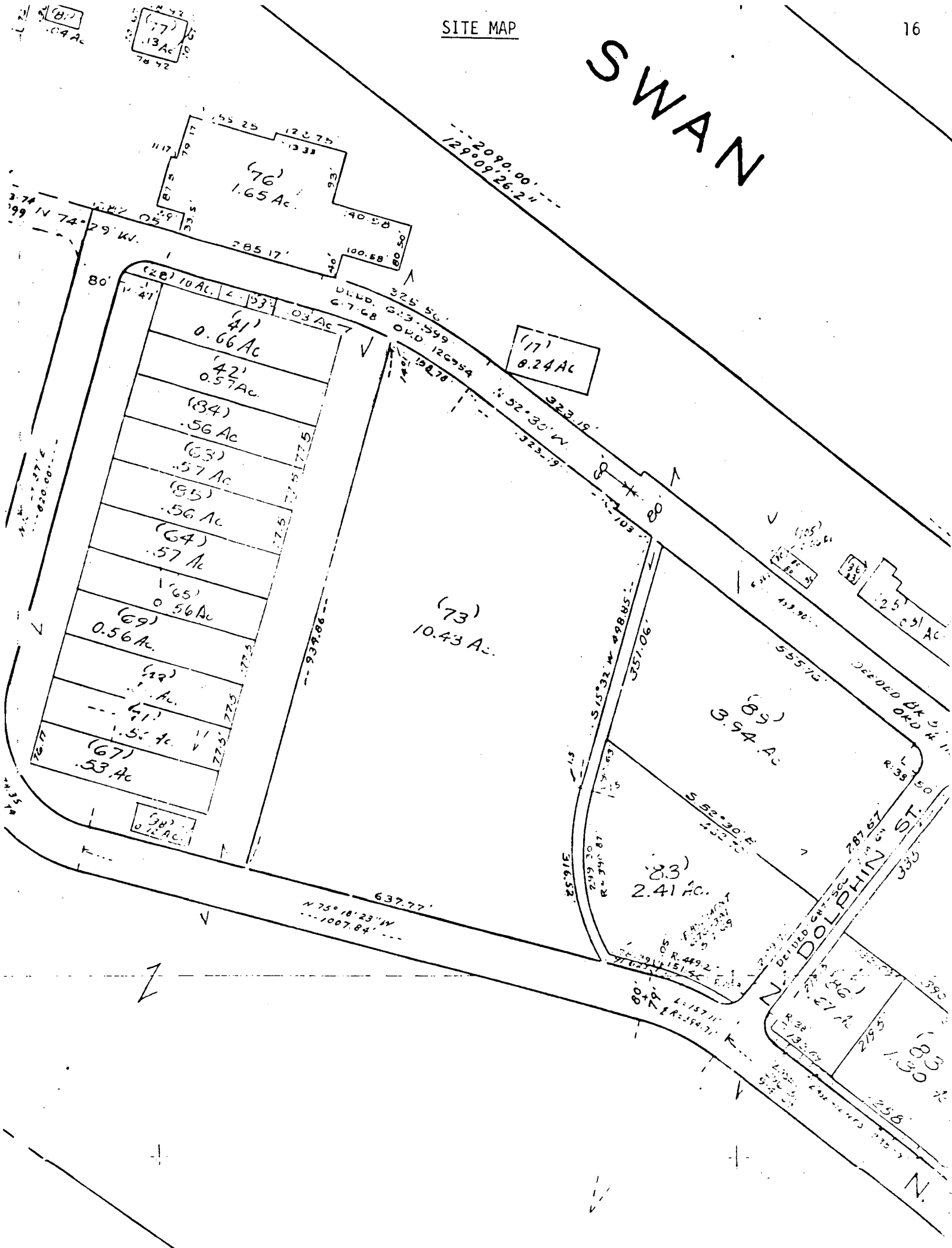
1. The minimum landscaping shall be an area equal to that of 50% of the standard 50' setback area.
2. No less than a 10' landscaped strip shall be installed along all street property lines exclusive of driveways, walks and railroad rights of way.
3. One 100% landscaping shall be provided in front of those portions of the building which have been permitted to extend closer to the property line than 50'.
4. The landscaping in this area shall be designed to enhance the architectural design of the building and to screen the parking, storage and loading area. On-site landscaping should be designed to be compatible with the street landscape program.

VI. Area Lighting

The objective of area lighting is to light landscaped areas, freestanding signs, buildings, parking areas or storage areas for decorative or security reasons. The light must not dominate the buildings or landscape but blend as an integral part of the total development. All lighting shall be shielded from adjoining properties when it would create an annoyance. The minimum average illumination levels shall be:

Parking areas	1.0 footcandle
Vehicle exists & entrances	2.0 footcandle
Walkways	0.5 footcandle
Storage areas	1.0 footcandle

SWAN

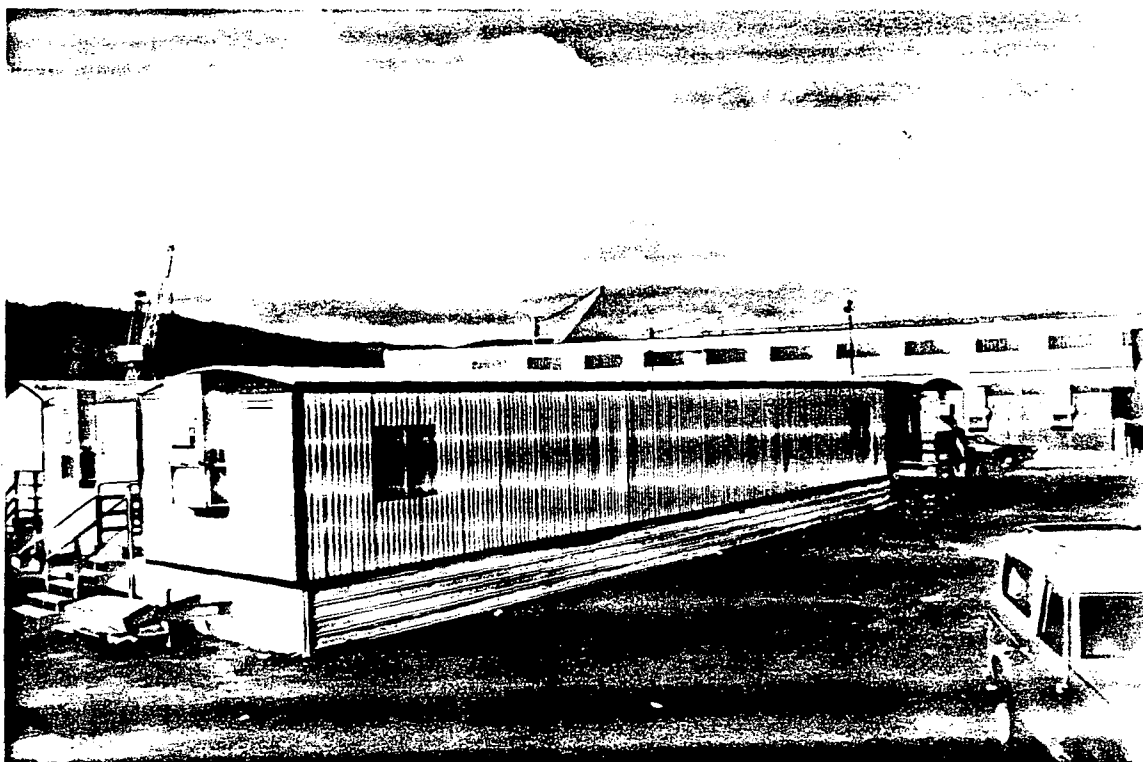




SITE DESCRIPTION (Continued)



SOUTH PARKING LOT



TEMPORARY NAVY HOUSING ADJACENT TO THE NORTH PARKING LOT

SITE DESCRIPTION (Continued)



GUEST PARKING AT THE ENTRY (EAST SIDE) OF N.W. MARINE IRON WORKS



YARD STORAGE AREA TO THE WEST OF THE MAIN FACILITY

DESCRIPTION OF IMPROVEMENTS

The subject property consists of a site containing 14.37 acres, a building containing 293,978 square feet and various yard improvements. The description of the building is as follows:

- Size:** The main building contains 170,573 square feet. The western extension of the craneway into a covered loading area contains an additional 34,500 square feet. To the east of the building, a new bay was created at the same time the new bay was constructed and contains 74,025 square feet. The office is two-stories in height and contains a gross area of 14,880 square feet. The total square foot area for the building is 293,978 square feet.
- Age:** The building was originally constructed in 1943. Major modifications took place in 1969 and 1983.
- Wall Height:** Within the shop area the walls range from 41' to 50'. The shed area adjacent to the new addition has a maximum wall height of 22'. The wall height within the office is 8'.
- Foundation:** The corner footings are 6' x 6' x 2' and are a concrete material. Sidewall footings are 4' x 2' and are concrete. The interior footings vary from 8' x 8' x 2' to 1' 6" x 2'. These interior footings vary due to load capacity. Footings under the office building are 4' 6" x 4' 6" x 1'. Foundation walls around the perimeter of the building.
- Exterior Walls:** The basic wall construction is frame with 2" x 6" studs, spaced either 16" to 3' on center. Cover over the walls is enameled galvanized steel siding. Additional light is allowed through corrugated fiberglass panels placed in the walls. The office building is finished with enameled galvanized siding, but differs from the main plant in that it has insulated walls and is finished with wall board on the interior.
- Floor:** The floor varies from 6" reinforced concrete to 3" blacktop paving. 173,363 square feet has meshed concrete that is 6" thick. Approximately 120,000 square feet has 3" thick blacktop paving. The main floor in the office has a mixture of vinyl sheet goods and wall-to-wall carpet for floor cover. Under the carpet and vinyl sheet goods is 3/4" plywood sheathing over 1 1/2" insulation board, 2" x 12" joists 16" on

**DESCRIPTION OF IMPROVEMENTS (Continued)**

center, 6" x 12" beams 4' on center. The second floor has 3/4" plywood over 2" x 8" floor joists 16" on center.

**Partition Framing:**

The bulk of the partition framing is in the office area. Partition framing is 2" x 6" studs nailed 16" on center, with 1/2" gypsum board on each side. A small portion of the interior framing of the office has 2" x 4" studs also nailed 16" on center, but has 5/8" gypsum board on each side. The majority of the interior partitions in the office area has been painted. A partition wall separates Bay 1 from the remainder of the buildings. This wall is frame construction and runs from floor to ceiling. Bays 2 through 11 have a variety of interior offices, tool cribs, personnel control screens, lunchrooms and restrooms.

**Roofing:**

The basic roof design is monitor, with a built-up composition cover. The interior is wood and steel trusses built on 50' bays. The roof support system varies from H-beams to A-frame support. The H-beams and A-frames supports double as craneway supports.

**Gutters & Downspouts:**

Roof drainage is provided through 6" galvanized steel gutters which drain through downspouts into a subsurface system.

**Interior Finish:**

On the north side of the building is the office area for this facility. These offices range from general bullpen arrangements to private offices and conference rooms. The general office area is finished with sheetrock walls and paint. The conference room and executive offices have paneled walls and wall-to-wall carpeting. Special features within the offices include a floating floor for the computer room.

**Windows:**

As stated previously, the roof design is monitor. The facing of the monitor has glass panels to allow light in the upper story area of the building. The perimeter of the building has plexi-glass panels over the openings. In the office areas are aluminum framed sliding glass windows. There is adequate lighting and ventilation into the building.

**Plumbing:**

The majority of plumbing is located in the office area. The women's restroom on the main floor consists of three toilets and three lavatories. The men's restroom has three toilets, two urinals, one cast iron service sink

**DESCRIPTION OF IMPROVEMENTS (Continued)**

and two lavatories. The second floor has a men's and women's restroom with approximately the same plumbing count as on the main floor. The main building has adequate restrooms to service the needs of the employees. The plumbing is located in such a manner within the building that it allows easy access to the restrooms. Additional restrooms are at the south wall of the factory.

**Sprinklering System:**

The sprinklering system is a dry system and is adequate for the occupancy. The supply is through seven 6" dry pipe valves and five 8" dry pipe valves. Water is fed through five 7" flanged gate valves.

**Heating:**

Heat for the office is provided by a gas-fired water heating boiler. The rating of the boiler is 840,000 BTU output, with gas burner, automatic controls and piping. Four circulating pumps with four zones, switch, wiring, and piping to perimeter mounted steam heating units heat the offices throughout.

Interior factory offices are heated, and part of the main building is heated by five zonal overhead electric heating units.

**Air Conditioning:**

The office has the bulk of the air conditioning. The unit in the office has 50 ton capacity and is a freon refrigerated unit. The only other air conditioning within the building are two wall-mounted units in the foreman's office.

**Railroad Track:**

A railroad spur runs into the east and west sides of the building. The total trackage measures 1,375 lineal feet within the building. The track is 90 pound and is set in blacktop with fasteners and ties. This track is mounted within the building to allow service of railroad cars.

**Craneways:**

Bays 1 through 11 have the capacity of at least 10 tons to the crane. Cranes in place vary from 5 to 10 tons, depending upon location. Bay No. 12 has 10 and 20 ton capacity and has stiffeners in the floor to make this capacity available.

The listing of the serviceable cranes and craneways was taken from information provided by the client. The exact capacity of each crane and craneway is assumed to be accurate. Cranes in Bays 2 through 11 are interchangeable.

DESCRIPTION OF IMPROVEMENTS (Continued)

Electrical:

The power to this facility is provided through two transformers located within the building. 2-50 KVA transformers at capacity produce 440 volt. Lighting in the main building is provided through mercury vapor lamps. Lighting in the office area is provided by ceiling mounted fluorescent lights.

Functional Utility  
(Building):

The building is divided into eleven 50' bays and one 85' wide bay. The 50' bays are approximately 400' in length and the 85' bay is 525' in depth. The craneways extend to the west of the main building into a covered railroad car and truck loading area. This allows easy handling of products within the building. Discussions with a number of people who are involved in buildings similar to the subject indicate that this form of setup is ideal for the handling of steel products.

Yard Improvements:

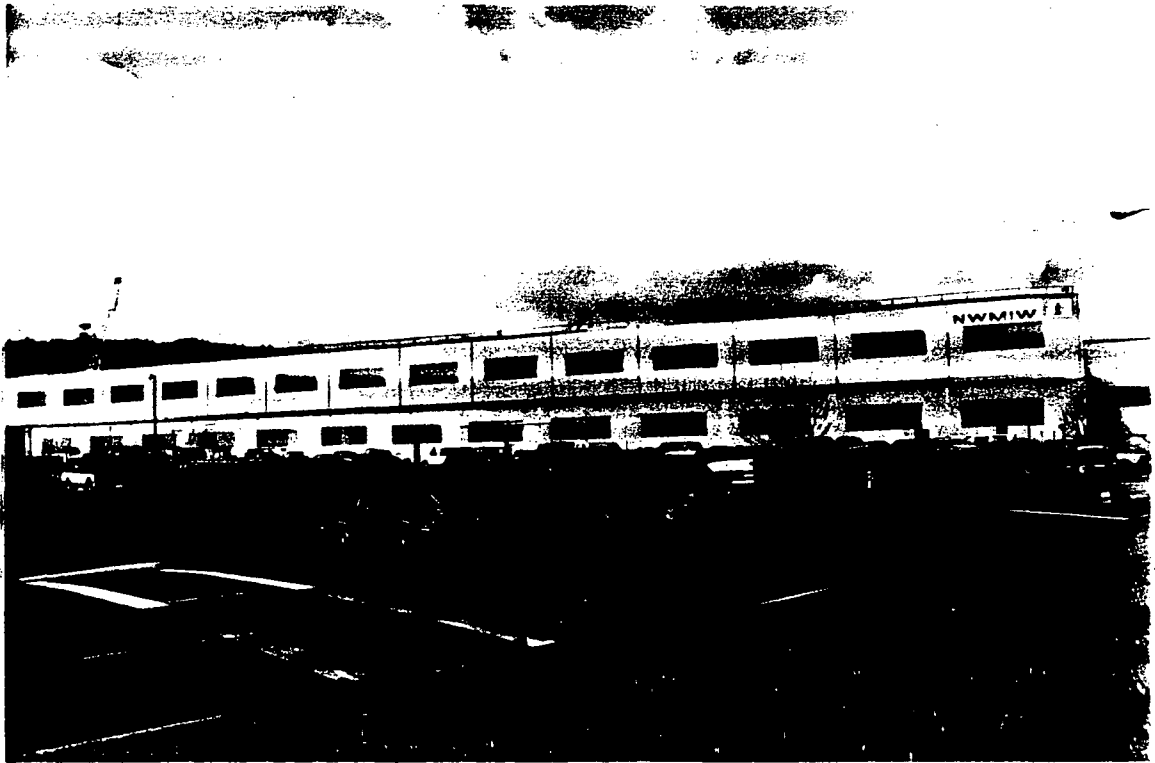
The yard improvements consist of approximately 207,000 square feet of blacktop paving. The paving is approximately 3 inches thick. There are 560 lineal feet of concrete curbing and planters around the parking area. The perimeter of the property is curtailed by 2,130 lineal feet of 8' high cedar slat-filled chain link fence. Entry gates allow access in and out of the site to Dolphin and Channel Streets.

In the yard area is 1,440 lineal feet of railroad track. These tracks are mounted on treated ties set in blacktop paving.

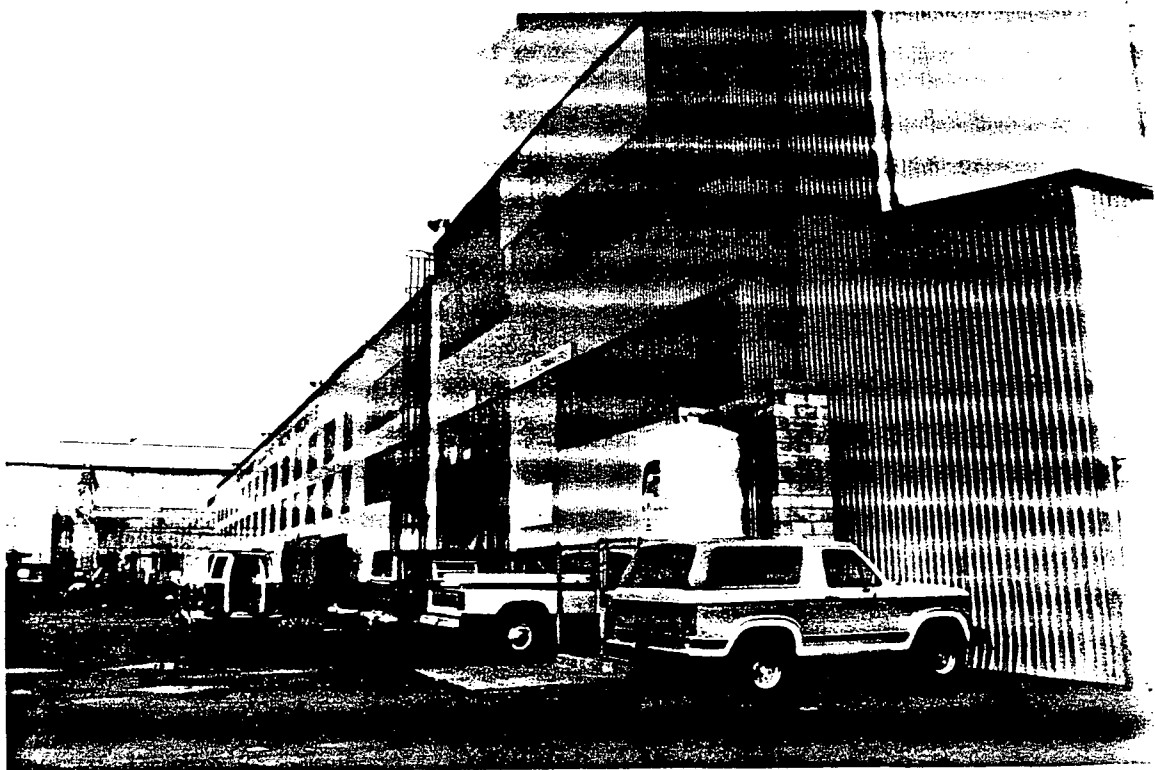
Around the perimeter of the property is a sprinklering system to accommodate the landscaping.

The overall condition of the yard improvements, landscaping and general maintenance of the grounds appear to be excellent.

DESCRIPTION OF IMPROVEMENTS (Continued)



SOUTH SIDE OF FACILITY

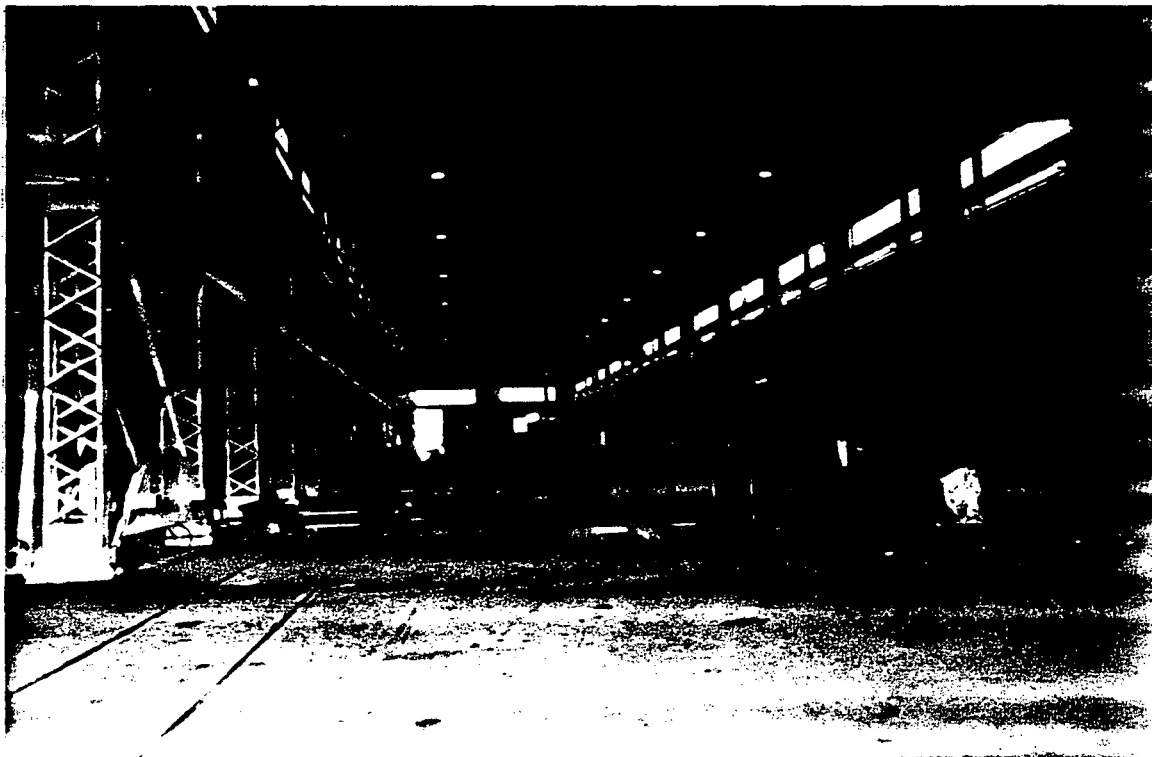


WEST SIDE WALL

DESCRIPTION OF IMPROVEMENTS (Continued)



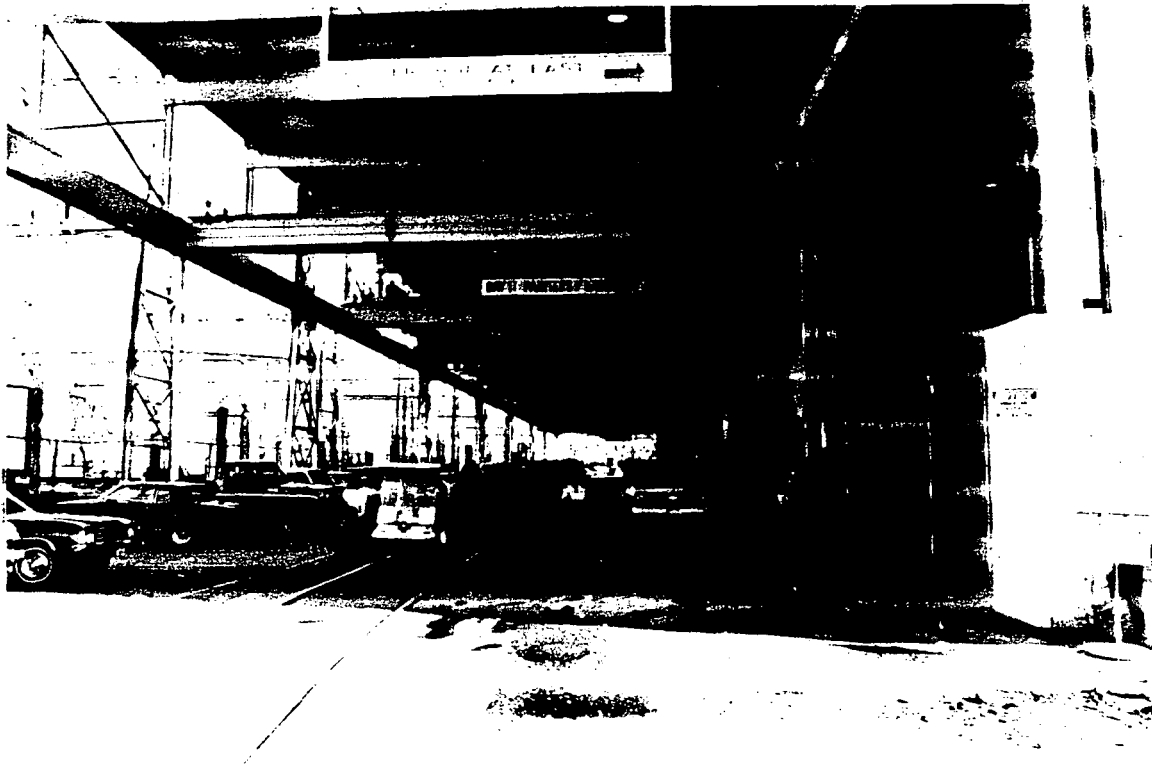
COVERED RECEIVING AREA ON THE NORTH SIDE OF THE BUILDING



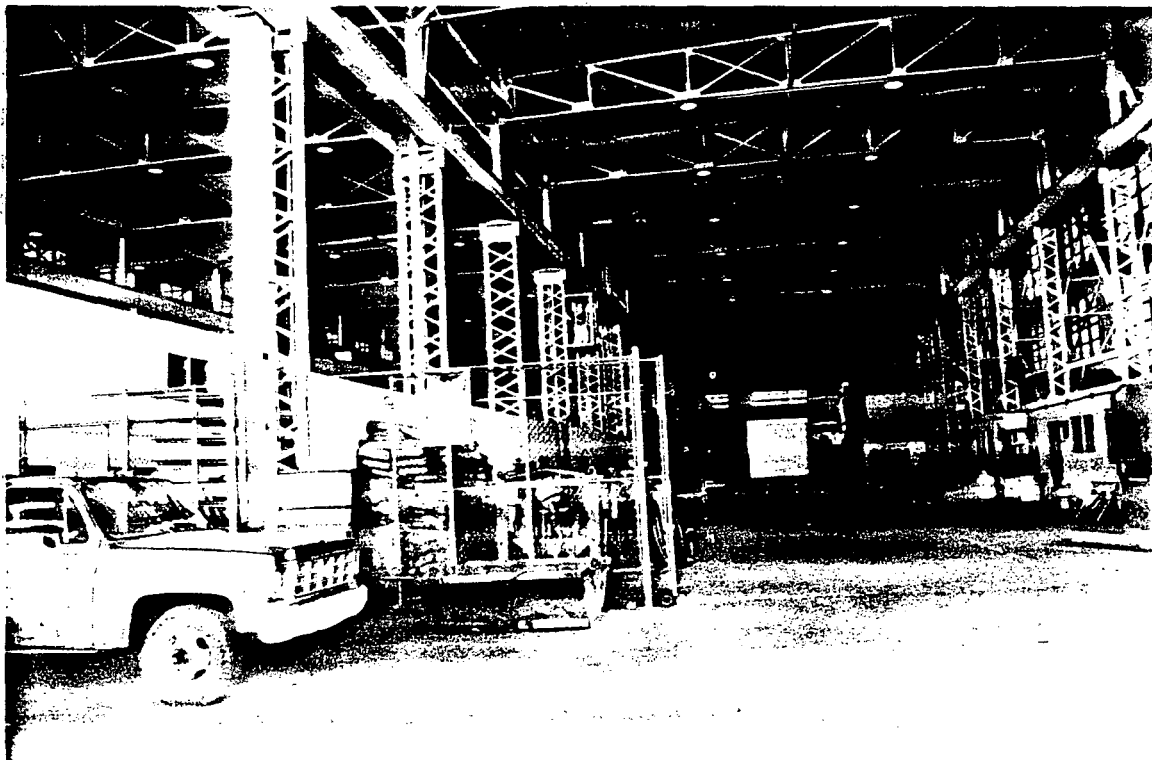
BAY NO. 12 - ADDED IN 1969, WITH 85' WIDTH



DESCRIPTION OF IMPROVEMENTS (Continued)



WEST END OF RECEIVING AREA



BAY NO. 11 - 50' WIDE

DESCRIPTION OF IMPROVEMENTS (Continued)



BAY NO. 9 - 50' WIDE - TYPICAL FOR THIS FACILITY



TYPICAL OFFICE FINISH - 2ND FLOOR ADMINISTRATION

DESCRIPTION OF IMPROVEMENTS (Continued)



OFFICE AREA - INTERIOR HALLWAY (TYPICAL)

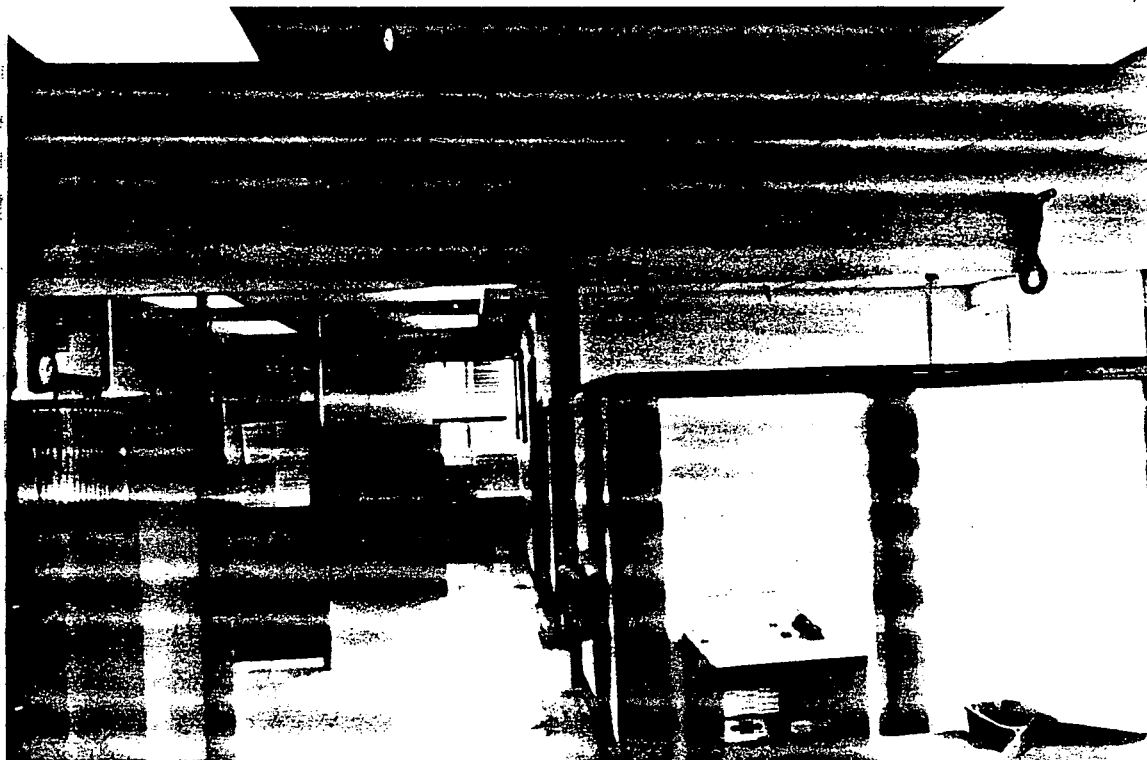


CONFERENCE ROOM

DESCRIPTION OF IMPROVEMENTS (Continued)



OFFICE PRODUCTION AREA (FIRST FLOOR)



PURCHASING AREA (FIRST AREA)

NORTH CHANNEL AVE.

12' DEAD END CITY MAIN

N 15° 0' 45" W 651.17'

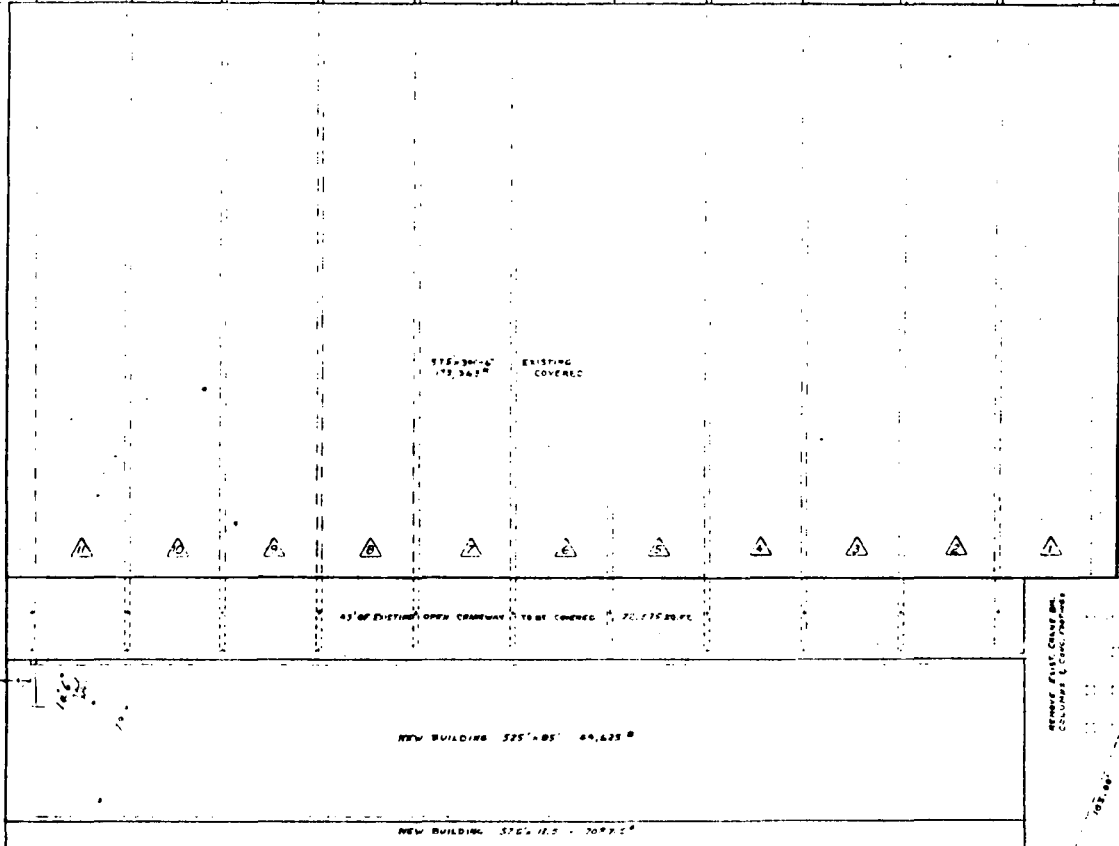
END OF EXIST. BUILDING

UP & DOWN

SEWER BASEMENT

301.5'

301.5'



N 15° 32' 00" E 934.80'

EXIST. 40' x 70' BAYS TO REMAIN UNCOVERED. THIS AREA

525' x 30' 15,367 sq ft EXISTING COVERED

45' OF EXISTING OPEN CORRIDOR TO BE COVERED 70,170 sq ft

NEW BUILDING 525' x 85' 65,625 sq ft

NEW BUILDING 525' x 11.5' 6,037 sq ft

EXISTING OFFICE ASSEMBLY

REMOVE EXIST. CHASE DR. COLUMNS & CONCRETE

FINAL PROPOSED LAYOUT OF BUILDING. SEE SHEET 31 FOR DETAILS.

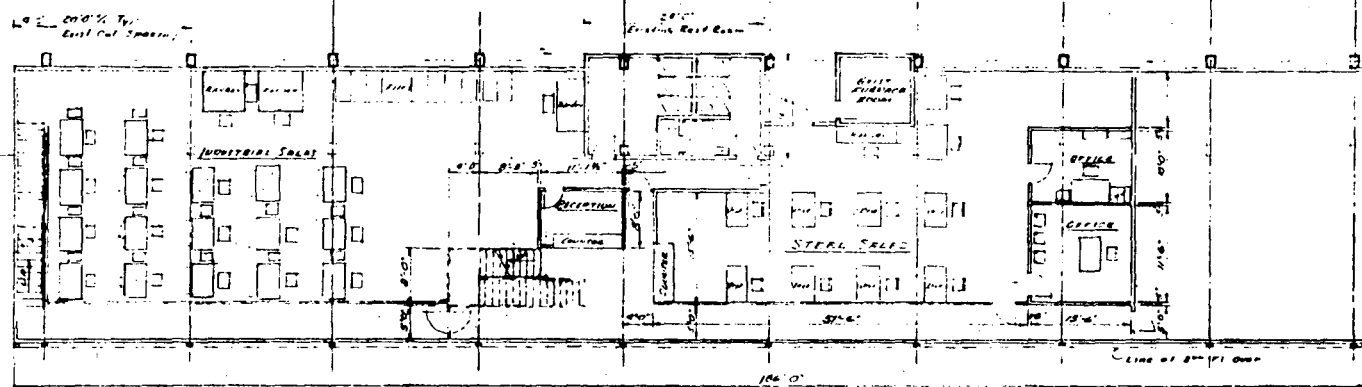
N 15° 32' 00" E 934.80'  
N 15° 32' 00" E 934.80'  
N 15° 32' 00" E 934.80'

COUNTY SPACES 17' x 20' 6' x 140'

DATE: 10/10/2011	PROJECT: ZEPHYRUS PLAZA	DESIGNED BY: J. L. M. / J. L. M.	CHECKED BY: J. L. M. / J. L. M.
DRAWN BY: J. L. M. / J. L. M.		SCALE: 1/8" = 1'-0"	
SHEET: 31 OF 31		PROJECT: ZEPHYRUS PLAZA	

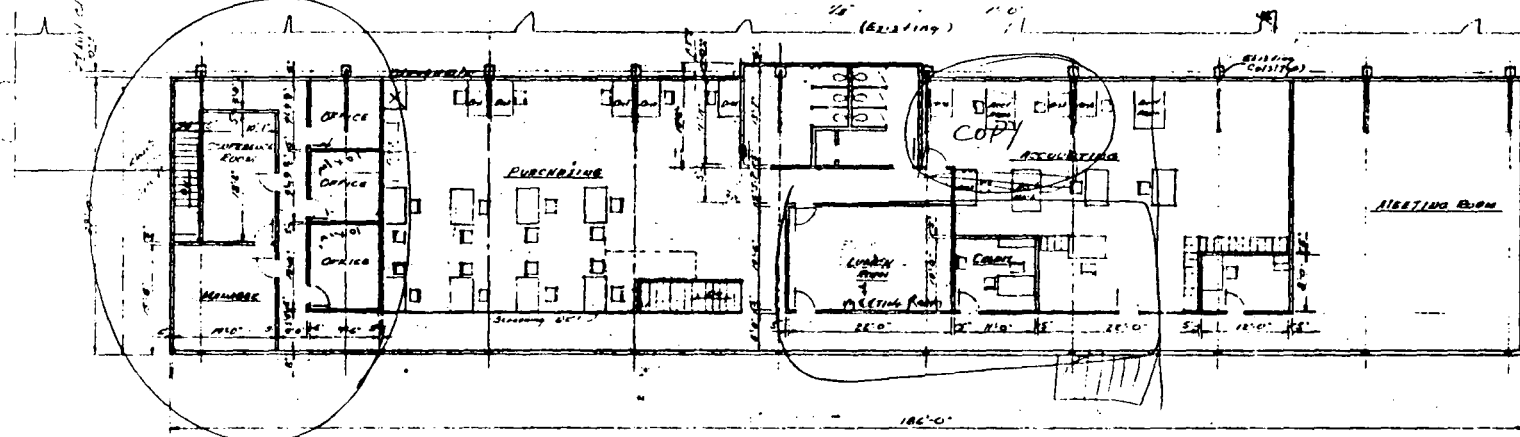






FIRST FLOOR PLAN

106'-0" (Existing) 11'-0"



SECOND FLOOR PLAN

106'-0" (New) 11'-0"

DRAWN BY: J. J. CHURCH SCALE: 1/8" = 1'-0" DATE: 5-11-42	ZAROSINSKI ENGINEERS INC. 516 E. MORRISON P.O. BOX 1204 CHICAGO, ILL.	OFFICE EXPANSION FOR WOODBURY & CO. SWAN ISLAND PORTLAND, ORE. FLOOR PLAN 3/6
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## HIGHEST AND BEST USE ANALYSIS

Highest and best use is defined as:

1. The reasonable and probable use that supports the highest present value of vacant land or improved property, as defined, as of the date of the appraisal.
2. The reasonably probable and legal use of land or sites as though vacant, found to be physically possible, appropriately supported, financially feasible, and that results in the highest present land value.
3. The most profitable use.

"Implied in these definitions is that the determination of highest and best use takes into account the contribution of specific use to the community and community development goals as well as the benefits of that use to individual property owners. Hence, in certain situations the highest and best use of land may be for parks, greenbelts, preservation, conservation, wildlife habitats, and the like." [American Institute of Real Estate Appraisers, The Dictionary of Real Estate Appraisal (Chicago, Illinois, 1984), p. 152.]

The definition above applies specifically to the highest and best use of land. It is to be recognized that in cases where the site has existing improvements, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use.

Implied within these definitions is recognition of the contribution of the specified use to the community environment or to community development goals in addition to wealth maximization of individual property owners.

The subject site contains 14.37 acres and is improved with a building occupying approximately 293,978 square feet. The facility was originally constructed in 1943 and used in the construction of ships during World War II. Subsequent to that period, the building has had various owners and uses, but has continually been used for heavy industry. The building is divided into 12 bays, each supported by an overhead crane system. Each bay has a minimum depth of 400' and a minimum height to the bottom of the crane of 27'. The building has a great deal of flexibility with the long bay configuration and 50' wall height. The only limitation to the versatility of use would have to be the 50' bay width. This has not been a limiting factor to the existing users, in that they are handling steel products and the 50' bay width presents no problem.

Overall, the site is generally conducive for heavy industrial use and river oriented users. The subject site does not have frontage on the Willamette River or Swan Island Basin, but is adjacent to the Port's dry dock facility.

It is this appraiser's opinion that the highest and best use for the subject site is as developed.

## VALUATION METHOD

The estimated market value of the Northwest Marine Iron Works facility assumes the highest and best use as an operating ship repair facility. To arrive at a conclusion of value, the three approaches to value will be considered. Due to the special purpose nature of the subject property, not all of these approaches will apply, however information from those approaches can assist this appraiser in identifying a final conclusion of value. These approaches are summarized as follows:

### Cost Approach

The cost approach is a valuation method which combines the estimated cost of construction with underlying land value, presenting the total cost or value of the project. Construction costs include all elements of construction, including site preparation, architectural and engineering fees, financing costs and contractor's overhead and profit. Other costs considered include site improvements, additional tenant improvements, if appropriate, market and leasing costs, and costs of lease-up activity and any loss in rent during the absorption period. The subject property is an operating ship repair facility with no inherent functional obsolescence noted, therefore the cost approach is a viable measurement of value.

In addition to the real property improvements, the property is encumbered with personal property generally termed machinery and equipment. For the machinery and equipment and other replaceable personal property assets, we have considered the following: extent, character and utility of the property; the estimated cost new where applicable, less an allowance for depreciation or loss of value arising from condition, utility, age, wear and tear and obsolescence; the cost of reproduction new of the individual items in accordance with market prices for labor and materials and manufactured equipment and machinery; or equipment prices from dealers reflecting value in operative condition, plus allowances for freight and installation and certain refurbishment allowances for equipment items whose price data reflected used market prices.

The cost approach, also known as the summation method, allows the arithmetic summation of the land value with the depreciated replacement cost of the improvements with the value of the personal property assets for a total indication of value of the subject facility.

### Market Data Approach

The market approach is based on the economic principle that a prudent investor will pay no more for a property than the cost of acquiring a satisfactory substitute property with the same utility and with no undue delay. In this application, market value is measured by what similar properties sell for in the current market. The application of this process requires analysis of these sales in comparison with the attributes of the subject property in terms of adjustment for the date of sale, conditions of sale, physical variations, locational differences, and other unique characteristics of the property. In the case of the subject property, several important issues need to be addressed in order to apply market data.

## VALUATION METHOD (Continued)

1. The location of the subject property is in such a unique position within the Portland metropolitan area that only one facility would be deemed competitive to the subject, the property adjacent to the subject and owned by the Port of Portland. The location of the subject, within a Port facility and adjacent to the dry dock, places it in a unique position to compete for ship repair contracts. Other facilities within the Portland metropolitan area have difficulty contracting for such repair work because of the prohibitive cost and physical and logistical problems of transporting large parts from the shipyard to the place of activity. Thus, facilities located in Tualatin, Clackamas Industrial Park, Guilds Lake or Vancouver, Washington would be unable to compete economically for ship repair contracts.
2. To estimate value by the market data approach, a search beyond the local boundaries of the Portland SMSA was undertaken. A national search produced several indications of value, but no identical sales to measure value directly from this approach could be ascertained. However, a method, or underlying thought process, could be obtained from the market data found in the market in west coast and east coast ship repair facilities.

The common practice in applying the market comparable approach would be the development of certain data which would allow interpolation or extrapolation of the data into an indication of value for the subject. The data from a national investigation was inconclusive in the traditional sense, but was informational to the point that it allows certain parameter understandings which are suggested by an analysis of the industry. These value parameters are foundational to our current investigation.

#### Income Approach

The income approach is based on the current income potential of the property. It considers the income-generating capability of the property and analyzes current expenses and other factors which influence the rent structure. Expenses are subtracted from the potential income, resulting in a net operating income. This is capitalized by an overall capitalization rate, indicating a final estimate of value.

Again, data could be obtained from local fabricating operations that produced an estimate of rents that could be charged by such facilities. However, information available in the national market from other ship repair facilities indicates rent significantly higher than facilities found not adjacent to or part of port facilities. This additional rent could be attributed to location or a premium placed upon those facilities that allow them to compete for ship repair contracts.

As in the market data approach, inconclusive data as to exact market rent, and therefore net operating income, was obtained. This produced an inconclusive answer as to value by the income approach. However, also as in the market approach, indicators were obtained that give indications of the market. The indicator will be discussed within that approach.

**COST APPROACH**

In this approach, the estimate of value represents the sum of the estimated land value and the depreciated reproduction cost of the subject improvements. The basic underlying assumption in estimating land value is that the subject site is vacant and available to be developed to its highest and best use. Land value is then estimated by comparing the site to sales of similarly zoned and located comparable industrial sites which have recently sold. The estimate of reproduction cost new has been derived from the Marshall Valuation Service. Typically, a deduction is made from the reproduction cost new estimate which represents the loss in value attributable to accrued depreciation. Accrued depreciation represents a quantifiable loss in value due to physical wear and tear, functional obsolescence and/or economic/locational obsolescence. In the case of the subject property, after considering all three sources of depreciation, we have concluded that the subject does not suffer from functional or locational obsolescence. In actuality, the key location of the improvements (within the Port of Portland's ship repair facility) places it within a unique position. Even though the building was constructed in the 1940, bay height and general utility makes it competitive with modern facilities. The reskinning and addition of the new bay in 1969, and the overall modernization in 1983 has kept the facility contemporary.

The sum of the estimated land value, the estimated reproduction cost new less physical depreciation, and the site improvements yield an estimate of real property value via the cost approach.

**Land Value**

The subject site contains 14.37 acres and is within the Port's ship repair area. There have been several land sales within the Swan Island or Mock's Bottom industrial parks that give indications of sales prices per acre for industrial sites. These properties are not adjacent to the Port's ship repair facility and therefore would be inferior to the subject. However, these sites are as good an indicator as is available within the Portland market and are therefore used in this analysis.

**COST APPROACH (Continued)**

**Land Sale No. 1 - Mock's Landing Distribution Center**

Location: North side of N. Cutter Circle approximately 800' south of N. Leverman Street, Portland, Oregon.

Legal Description: Block 1, Lot 3, and a portion of Lot 4, Mock's Landing Industrial Park, City of Portland, County of Multnomah.

Date of Sale: August 1981

Documentation: Book 1555, Page 1458

Grantor: Port of Portland

Grantee: Mock's Landing Distribution Center (Keller Enterprises)

Price: \$708,192

Zoning: M-2

Land Size: 4.918 acres

Sale Price/Acre: \$144,000 net area

Comments: This sale was confirmed with Peggy Krause of the Port of Portland. This parcel is part of the Mock's Landing Distribution Center. Seller has constructed a facility for paper and office products distribution.

**COST APPROACH (Continued)**

**Land Sale No. 2 - H.A. Andersen**

Location: 6712 N. Cutter Circle, Portland, Oregon

Legal Description: A majority of Lot 7 of Phase 1 and a portion of Phase 2, Mock's Landing Industrial Park, City of Portland, County of Multnomah.

Date of Sale: December 31, 1981

Documentation: Book 1571, Page 876

Grantor: The Port of Portland

Grantee: H.A. Andersen Company

Price: \$770,000

Zoning: M-2

Land Size: 5.5 acres net

Sale Price/Acre: \$140,000 net area

Comments: This site has been improved with the H.A. Andersen warehouse facility.

Confirmed By: Peggy Krause, Port of Portland

**COST APPROACH (Continued)**

**Land Sale No. 3 - Cummins Diesel**

**Location:** The Intersection of N. Basin and N. Going Streets, Swan Island, Portland, Oregon.

**Legal Description:** A portion of Tax Lot 14, Section 20, T1N, R1E, Willamette Meridian, City of Portland.

**Date of Sale:** October 12, 1983

**Grantor:** Port of Portland

**Grantee:** Cummins Diesel

**Price:** \$608,850

**Terms:** Cash

**Zoning:** Industrial

**Land Size:** 3.69 acres

**Improvements:** None

**Sale Price/Acre:** \$165,000

**Confirmed By:** Peggy Krause, Port of Portland

**Comments:** The buyers also leased 3.31 acres with an option to purchase within two years at \$165,000 per acre, after a non-refundable deposit of \$67,000. They leased an additional 1.52 acres for 30 years with the rental based on 10% of the land value. An option to purchase this land was also given based on the land value after ten years.

Approximately four acres is now usable. The remainder is a portion of the lagoon now being filled by the Port of Portland.



**COST APPROACH (Continued)**

**Land Sale No. 4 - Cousins Home Furnishings**

Location:	5910 N. Cutter Circle, Portland, Oregon
Legal Description:	Mocks Landing Industrial Park
Date of Sale:	January 1984
Grantor:	Port of Portland
Grantee:	Cousins Home Furnishings
Price:	\$1,119,700
Zoning:	Industrial
Land Size:	7.9 acres
Sale Price/Acre:	\$141,734
Comments:	The purchaser constructed a furniture distribution center on this site.
Confirmed By:	Seller

# Comparable Land Sales

Subject

SW ISLAND BASIN

SHIP  
REPAIR  
YARD

CITY OF PORTLAND

WILLAMETTE RIVER

## COST APPROACH (Continued)

## LAND COMPARABLES

<u>No.</u>	<u>Name</u>	<u>Date</u>	<u>Size (Acre)</u>	<u>Zoning</u>	<u>Sales Price</u>	<u>Price/Acre</u>
1	Mock's Landing Distribution Center	8/81	4.918	M-2	\$ 708,192	\$144,000
2	H.A. Andersen	12/81	5.50	M-2	\$ 770,000	\$140,000
3	Cummins Diesel	10/83	3.69	M-2	\$ 608,850	\$165,000
4	Cousins Home Furnishings	1/84	7.90	M-2	\$1,119,700	\$141,734
	Subject	3/86	14.37	M-2		

## Land Sales Analysis

In order to value the subject Industrial land, we have utilized the comparative method. This technique calls for analyzing sales of similar comparable land in terms of the unit of value which, in this case, the market dictates to be the price per acre method. After adjusting for differences in the comparable sale properties, or at least taking into careful consideration the differences between the sale properties and the subject, these appraisers then arrived at an opinion of the subject's market value.

With regard to change in value over the study period, the appraisers were unable to locate any sales-resales of industrial land with to accurately abstract any appreciation/depreciation rate. The consensus within the real estate community, by knowledgeable appraisers, brokers and developers, is that a very small amount of appreciation, although difficult to measure, has occurred for this type of property over the study period from late 1981 to the present. However, this appreciation has been very slight and, for valuation purposes, almost negligible. Also, the Port of Portland basically has a monopoly on all of the vacant industrial land on the Swan Island basin and, similarly, effectively fixes the prices of said land. This monopolistic, price-fixing power is somewhat limited, however, because there are competitive industrial areas within the greater Portland metropolitan area which are not controlled by the Port of Portland. Therefore, the Port still must price their land within the limitations imposed by the marketplace.

**Land Sale No. 1** is located on the north side of N. Cutter Circle, approximately 800' south of N. Leverman Street in the Mock's Landing Industrial Park. This was the first sale to occur within the park, in August 1981. This 4.918 acre site sold for \$144,000 per net acre, and was later improved with the Mock's Landing Distribution Center.

**Land Sale No. 2** was the second sale within Mock's Landing Industrial Park. This December 1981 sale was for 5.51 acres at \$140,000 per net acre. The site was subsequently improved with the H.A. Andersen warehouse and home office facility.

## COST APPROACH (Continued)

**Land Sale No. 3** is located at the intersection of N. Basin and N. Going Streets, at the entrance to the Swan Island Industrial Park. Cummins Diesel purchased this 3.69 acre site in October 1983 for \$165,000 per acre.

**Land Sale No. 4** is located at the intersection of N. Cutter Circle and Leverman Street. Cousins Home Furnishings purchased this 7.9 acre parcel in January of 1984 on the basis of \$141,734 per acre. This site is approximately 1/2 the size of the subject property.

There are several parcels available in the Mock's Landing Industrial Park for either sale or lease. The listed prices per acre is \$150,000 to \$160,000 for parcels which are less than five acres in size. For parcels larger than five acres, the price per acre is \$140,000 to \$150,000. Rail-served property sells for a premium of \$3,000 per acre. Certain properties are offered on a lease only basis, with annual ground rent based upon a 10% return rate to the land values already cited. Rent is net to the Port, i.e., tenants pay taxes, utilities, insurance, maintenance and other costs associated with the use of the property. In addition, the rent is subject to escalation at three-year intervals to reflect changes in land value. The 10% rate of return is constant for the lease term. In general, the Port is open to long-term ground leases of up to 30 years in duration. The subject site contains 14.37 acres and is located at the north end of the Swan Island Industrial Park. This is an older section of the industrial park but is considered a prime location within the park. It is this appraiser's opinion that a consistent rate of \$140,000 per acre is indicated from the sales. Therefore, the indicated value of the subject site is:

$$14.37 \text{ acres} \times \$140,000/\text{acre} = \$2,011,800$$

$$\text{Rounded:} \qquad \qquad \qquad \$2,012,000$$

## COST APPROACH (Continued)

## Building Value

To estimate the value of the subject building by the cost approach, the builders' method of estimating reproduction cost has been used. Direct costs (including labor, materials, equipment and subcontractors' fees) have been included, plus the indirect costs (including profit and overhead, architects' fees, survey, legal fees, permits and licenses, insurance, taxes, finance charges, selling and management expense). An estimated amount of depreciation from all causes is deducted to arrive at a final estimated reproduction cost new of improvements less accrued depreciation.

Three sources were used to estimate reproduction cost new: (1) an earlier appraisal by General Appraisal Company, adjusted for changes to the buildings plus passage of time; (2) the Marshall & Swift Cost Service wherein contemporary costs for similar structures is estimated; (3) a current appraisal of a recently constructed similar structure in the Portland area where the true cost of construction was known.

## Reproduction Cost New (Building)

Direct Costs	
Excavation	\$ 41,300
Concrete below ground	402,800
Concrete above ground	11,400
Blacktop paving (interior)	75,600
Concrete on ground	439,000
Surface drains	13,050
Steel structure	5,280,300
Exterior concrete work	3,000
Wood construction	943,200
Sprinkler system	421,200
Painting	95,330
Exterior walls	239,700
Office construction, including:	
Floors, walls, ceilings, roofing,	
heating, lighting, air conditioning,	
carpet, partitions, doors and windows	724,170
Factory area construction, including:	
East warehouse extension, lunchroom and	
restrooms, stock rooms and fenced	
areas, shops and superintendent offices	
and foremen's offices	362,080
General construction features	
Electrical supply	269,280
Lighting in factory	241,920
Plumbing (underground)	26,400
Roofing	196,500
Roof drains	6,210
Signs	<u>2,000</u>
Subtotal (building)	<u>9,794,440</u>

## COST APPROACH (Continued)

Yard Improvements	
Blacktop	140,500
Concrete curbs	2,500
Fencing	29,230
Railroad track (including portions in building)	281,500
Storm sewer	17,340
Landscaping	21,500
Utilities in dormitory area	<u>245,000</u>
Subtotal (yard improvements)	<u>737,570</u>
Indirect costs	
Job supervision (1.5%)	157,980
Plans and specifications (3%)	<u>316,000</u>
Subtotal indirect costs	<u>473,980</u>
Subcontract specialties	
Truck scales	10,000
Fueling station with tanks	<u>5,000</u>
Subtotal	<u>15,000</u>
Total reproduction cost new	<u>11,020,990</u>

Depreciation is defined as "the loss from the upper limit value." An effect caused by deterioration or obsolescence: deterioration is commonly known as depreciation and is divided into areas of physical curable and physical incurable. Obsolescence is characterized into functional obsolescence (curable or incurable) and environmental or economic (which is always incurable).

Depreciation estimates for the subject improvements have been made on an age/life basis. This estimate is derived from estimating total economic life of the improvements and therefrom deducting the effective age of the existing improvements. This will leave a remaining value for the improvement.

The subject building was originally constructed in 1943 and has been extensively remodeled since the original date of construction. The front office and east bay addition was completed in 1968. The entire property was extensively refurbished in 1983. In checking comparable buildings in the Portland and Vancouver areas, this appraiser found one new, high-bay building recently constructed. However, in reviewing occupancy rates in similar buildings, the majority were occupied by owner-users. The occupancy rate would indicate demand for buildings similar to the subject.

## COST APPROACH (Continued)

The following depreciation estimate has been made:

	<u>Cost New</u>	<u>Depreciation</u>	<u>Remaining Value</u>
Yard Improvements and Subcontract Specialities	\$10,235,230	23%*	\$ 7,881,100
	<u>785,760</u>	20%	<u>628,600</u>
Depreciated value of Improvements	\$11,020,990		\$ 8,509,700
Estimated site value			<u>2,012,000</u>
Total value Indication (real estate)			\$10,521,500
Rounded:			\$10,520,000

## Contents Value

To the Indicated value of the real estate from the cost approach, we will add the value of the appraised contents of the property. The contents can be generally termed machinery and equipment, and can be sub-categorized as:

Bridge Cranes  
Miscellaneous Equipment (throughout the plant)  
Mobile Equipment  
Forklifts  
Office Contents

## Bridge Cranes

The factory area is served by top running bridge cranes of 5, 10 and 20-ton capacities. Bays 2 through 11 have 50' span cranes of 1943 vintage with contemporary electrification, drives and controls (1983), and each bay has multiple cranes and they are periodically relocated from bay-to-bay. The bay on the east side of the building (1969) is served by 10 and 20-ton top running, 85' span cranes.

Estimate of installed cost or reproduction cost new of \$1,200,000 less depreciation (cost weighted):

10 5-ton capacity x 50' span	
10 10-ton capacity x 50' span	
1 10-ton capacity x 85' span	
1 20-ton capacity x 85' span	\$1,200,000

Five year effective age

20 year remaining life	<u>(20%)</u>
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Cost approach contribution to market value	\$ 960,000
--------------------------------------------	------------

## COST APPROACH (Continued)

## Miscellaneous Equipment (throughout the plant)

Qty.	Description
3	Portable sandblaster
21	Misc. Paint pumps
3	Portable high pressure washers
2	Portable paint trailers w/pump
1	Portable paint truck w/pump
98	Portable air flow fans
5	Pipe threaders
1	Malsbury combination pressure washer/steam cleaner
1	Hand bending brake - 4 ft.
1	Hand bending brake - 6 ft.
1	Hand bending brake - 10 ft.
1	Powermatic 20" bandsaw
1	GV Nibbler, Model medium, S/N 56165
1	Wysong Shear, Model 1025, S/N P37-184
1	Pacific Hyd. Press Brake, Model 200-12, #3803
1	Pacific Hyd. Press Brake, Model 1500-27, S/N 3315
1	Mubea Univ. Iron worker, Model KBC 1/2, S/N 133/15359/17
1	Pyramid Roll Former, 4 ft.
1	Wood shop dust collection system
6	Lincoln welders, Mod Sam 650-63400
104	Various Lincoln welders, 400 to 600 amp.
139	Various Miller welders, 400 to 600 amp.
12	Various Airco welders, 250 to 400 amp.
7	Various miscellaneous welders
2	Worthington trailer mounted air compressors, Model 1347
2	Sandblast cabinet, hand type w/dust collection
3	Small sandblast cabinet
1	Portable bilge pump, 30 HP
4	Welding positions, various capacity
15	Welding positions, Roll type, various capacity
2	Wells horizontal bandsaw, Model 1000
1	Marvel auto horizontal bandsaw, Model 81A7/M3M/M5
1	Coast pipe bender, Model 6 RD
1	Oster threading machine, Model 6A
1	Worthington Monorotor air compressor, Model P-240-60
1	Plant manufactured oil flushing system
1	Plant manufactured valve test system
1	Plant manufactured pump test system
1	Parker mechanical shear, Model 1472
1	K.O. Lee tool grinder, Model B60628
2	Dake 50-ton Hyd. H-frame press
1	Lagun Republic vertical milling machine, Model FTV-1
1	Fosdick radial arm drill, 12" x 4' sensitive
1	Axelson engine lathe, 22-1/2" swing x 78" oc
2	Clausing Colchester 21" engine lathe



## COST APPROACH (Continued)

## Miscellaneous Equipment (throughout the plant)

Qty.	Description
1	Hercules Ajax 17" engine lathe
1	Steptoe 16" horizontal shaper
1	Bridgeport vertical milling machine
1	Milwaukee K&T #3B horizontal mill
1	Lucas #31 precision boring mill
1	Nebel 24" x 10' engine lathe
1	Nebel 22" x 6' engine lathe
1	LeBlond 18" x 4' engine lathe
1	Ikeda radial drill 12" x 5'
1	Hyd. press, 18" x 5' cylinder, 400-ton
1	Hyd. transport "Big Foot"
4	Tuggers
1	Motorola radio, base unit and remotes
1	Motorola radio, base unit and remotes
1	Yale floor scale, 4500 lb., 4' x 5' platform
1	Oliver drill bit sharpener, Model 21
1	Oliver drill bit sharpener, Model 500
22	Post mounted jib crane, 2-ton, 16-30 ft. boom
5	Post mounted jib crane, 2-ton, 16-30 ft. boom, no hoist
3	Post mounted job crane, 1-ton, 16-30 ft. boom
1	Post mounted jib crane, 1/2-ton, 16-30 ft. boom
3	Mast mounted jib crane, 2-ton, 30 ft. boom
2	Post mounted jib crane, 2-ton, 20-30 ft. boom, manual hoist
1	Tanaka Eng. pattern cutting torch, 6 head
1	Airco pattern cutting torch, 5 head
2	Wells horiz. band saw, Model 8
1	Scotchman shear/punch, Model 9075-24
1	Hercules shear, 10' x 3/4"
1	Peddinghaus punch, Model 210/16
1	Aronson welding manipulator w/welder
1	Whitney punch press, 96-ton
4	Paint shop wet type exhaust units, 20' x 5' x 14'
5	Portable storeroom w/equipment
1	Group misc. equipment stored in yard
1	Group misc. general plant equipment including hand tools, hand power tools, furniture and small machines

## COST APPROACH (Continued)

## Mobile Equipment

Year	Description	Make	S/N
1966	Semi tractor #10 w/trailer	Chevrolet	L63365170004
1976	Semi tractor #30 w/trailer	Chevrolet	CTE665V165350
1975	Semi tractor #37 w/trailer	Freightliner	CA210ZP113685
1975	16-ft. flatbed #39	Chevrolet	CCE625Y155815
1967	18-ft. flatbed #31	Int'l.	456090G238427
1977	1-ton flatbed #36	Chevrolet	CCL337J163642
1976	1-ton flatbed #13	Chevrolet	CCL336Z132266
1982	1-ton flatbed #38	Chevrolet	1GBHC34M2CJ117557
1977	1-ton flatbed #46	Chevrolet	CCL337J161440
1976	1-ton flatbed #47	Chevrolet	CCL336Z132333
1977	1-ton flatbed #49	Chevrolet	CCL337J160183
1977	1-ton flatbed #50	Chevrolet	CCL3361104450
1982	3/4-ton pickup #23	Chevrolet	2GCGG24M5C1139077
1979	"Luv" pickup #29	Chevrolet	CLN1498265121
1982	3/4-ton pickup #97	GMC	2GTFC24HXC1533771
1982	3/4-ton pickup #98	GMC	2GTFC24H4C1533765
1982	3/4-ton pickup #99	GMC	2GTFC24H8C1533767
1982	3/4-ton van #25	GMC	2GOGG35M8C4518868
1964	Tanker truck #18	White	488262
1962	Tanker truck #20	GMC	LA5003N3326G
	Karry crane, 12,000 lb. #14	JLG	8700268
1981	Karry crane, 12,000 lb. #26	JLG	0408 000282
1981	Karry crane, 12,000 lb. #27	JLG	0408 000284
	Karry crane, 6,000 lb. #17	Hyster	-
	Karry crane, 6,000 lb. #4	Hyster	-
	Mobile crane, 50,000 lb., #X	Grove	16723
	Group 25 golf carts	Yamaha/Harley Davidson	

## COST APPROACH (Continued)

## Forklifts

Manufacturer	No.	Description	Model	S/N
Hyster	#19	11,000 lb. capacity gasoline engine	H110F	D6D1547P
Hyster	# 5	5,000 lb. capacity gasoline engine	H50F	83D8390P
Hyster	#25	20,000 lb. capacity gasoline engine	-	87P6194S
Towmotor	#21	5,000 lb. capacity LPG engine	T50B	12N1839
Clark	# 3	15,000 lb. capacity diesel engine	CNY160BD	109-954
Toyota	#22	2,000 lb. capacity gasoline engine	FG-20	13611
Toyota	#78	3,000 lb. capacity LPG engine	42-4FG15	F0FG18-10776

COST APPROACH (Continued)

Office Contents - First Floor

Desks  
Chairs  
1-drawer file cabinets  
2-drawer file cabinets  
3-drawer file cabinets  
4-drawer file cabinets  
5+-drawer file cabinets  
Tall clothes locker  
Floor mats  
Office tables  
Bookcases  
Conference table  
Portable partitions  
Electric typewriters  
Manual typewriters  
Calculators  
Projector - 16mm sound  
Slide projector w/tape unit  
Overhead projector  
Microfiche

## COST APPROACH (Continued)

## Office Contents - Second Floor

Desks  
Chairs  
1-drawer files  
2-drawer files  
3-drawer files  
4-drawer files  
5+-drawer files  
Tall locker  
Floor mats  
Office tables  
Bookcases  
Conference tables  
Executive furniture  
Wood drafting tables  
Credenzas  
Light table  
EDP File  
Electric typewriters  
Calculators  
Cummins Check perforator  
Bruning PD80 copier  
Bruning PD160 Blueprint machine  
Binder punch  
Shredder  
Television monitors  
Meter base  
Teletype  
Moore Model 400  
Talb burster  
Kroy lettering system  
Wang word processor w/2 terminals  
Refrigerator  
Microfiche  
Microfiche printer  
Primus computer system

## COST APPROACH (Continued)

To the preceding categorical totals for the cost to acquire used, assets similar in character to the subjects inventoried at Northwest Marine Iron Works, we must add the cost to transport those items from their offered location to the Swan Island site, spot them in the plant and connect, install, electrify and provide foundations (as applicable). The current cost to perform the "freight and installation" is estimated to be \$1,500,000.

Northwest Marine Iron Works is an operable facility with all items in an operating condition, warranted to the current operators as to quality of service, and is operable on a turnkey basis. The tangible elements such as refurbishment and inspection, plus the indirect element of supervision and testing to a turnkey quality is estimated to add an additional \$1,500,000 to the cost to acquire used plus freight and installation. In this instance, using the premise of value set forth in this report, it is this appraiser's opinion that all these costs contribute to value. As such, the contents contribute \$6,481,230 to the cost approach market value indicator.

## Summary

Land	\$ 2,012,000
Building and yard improvements	8,509,700
Equipment	<u>6,481,230</u>
Total	\$17,002,930
Rounded:	\$17,000,000

#### MARKET DATA APPROACH

The comparative market approach suggests prices paid for comparable assets or by direct substitution equivalent to the value of the asset being considered. Degrees of comparability exist, and commonly adjustments are made to equate the comparable to the subject. Typical adjustments are for inherent physical differences (size, capacities, etc.) external to the subject, locational market differences, and price adjustments due to time, terms of the transaction or differences in absolute revenues upon which prices are calculated.

We have investigated the national shipbuilding, refurbishing and repair industry. We have held discussions with governmental units, Department of Transportation, Maritime Administration and the U.S. Navy, industry groups, Shipbuilders Council of America, operators, sellers and buyers of facilities.

We have carefully reviewed all activity since 1980. Commercial ship orders in 1980 were 66. Currently there are five being built, with no new orders. The military is the only area of new construction. Of 110 shipyards in 1980, 25 have closed and further closings of that magnitude are expected. Bethlehem Steel divested itself of its yards to other operators in Boston, Hoboken and San Francisco. It also sold to alternate users its Baltimore facility.

We have visited facilities in Bath and Portland, Maine, Boston, New York, Norfolk, Virginia, Savannah, Georgia, New Orleans, Houston, San Diego, Los Angeles, San Francisco and Seattle areas. We have discussed this assignment with knowledgeable participants, appraisers, brokers and other witnesses to the events and transactions. The transactions analyzed were a function of cost. Few were for the elimination of competition. Prices paid were calculated in light of the cost to create an alternative assemblage of assets or to avoid and reduce current costs incurred in operating less economic facilities. Northwest Marine Iron Works consolidated all its operations in this one Portland facility on the basis of consolidating and reducing operating costs in exchange for the increased capital costs of a new assemblage in one facility. As a result, their market advantage is expected to be greater.

Of the above-named locations, specific market information could be obtained in the following properties to support our opinion that cost is a function of market activity within the shipbuilding industry.

## MARKET DATA APPROACH (Continued)

## Comparable No. 1 - Lease of Bath Iron Works, Portland, Maine



Date: January 18, 1982

Lessor: City of Portland, Maine

Lessee: Bath Iron Works Corporation

Leased Property: The site was originally used as a public facility for the ferry system. The need for the ferries changed, and the facility became excess to the needs of the City. The site contains 134,200 square feet (3.018 acres) of land. A 170' x 900' pier projects from the land. Situated upon the pier is a 121,100 square foot, wood frame building. The building is used as a light fabricating facility, as well as a ship outfitting facility. Upland improvements consist of a 41,550 square foot, open shed building. The building has a 17' interior clearance, and is used for storage. The second building is two stories in height, with the first floor open storage and approximately 3/4 of the second floor as office. Other improvements consist of a power station, gate houses, boiler and compressor building and miscellaneous storage building, as well as yard paving. The facility is fenced for security.



## MARKET DATA APPROACH (Continued)

A floating dry dock is used at this facility, which is leased from the State of Maine. A portion of the property will be discussed under Comments.

## Terms:

The base lease will run from February 1, 1982 through December 31, 2001. There will be a five-year cancellation for privilege, as well as a purchase provision. The total cost of the project is \$20,100,000. The City of Portland invested \$15,000,000 in purchase and capital improvements. The financing of the project was through industrial development bonds (20 years at 11.4%), with annual installments of \$1,907,285. The payments are to be made by Bath in the form of rent.

The State of Maine invested in the purchase and upgrade of the floating dry dock. The State contribution totaled \$15,000,000, the City of Portland was to invest \$2,700,000 in upgrades, and Bath was to invest \$4,500,000. The State financed the purchase and upgrade in the same manner as the City, and will be repaid within eight years. Payments are \$1,505,592, and are to be made by Bath. In addition, Bath is to purchase \$5,500,000 in equipment over the next five years, as well as relocate some of the equipment from Bath to the Portland facility.

## Rent Indicated:

In this particular instance, meaningful per square foot rent could not be achieved. The basis for the rent was the cost of purchase and capital improvements to the facility. Bath Iron Works has a significant facility in Bath, Maine (30 miles north), and considerable effort was expended by both the City of Portland and the State of Maine to retain and accommodate the expanded operation and facilities needed by Bath.

## Comments:

The floating dry dock was acquired by the State of Maine from the Department of the Navy. Subsequent to purchase, major revision of the electrical system was undertaken. The remainder of the upgrades took place after the agreement with Bath was consummated. The purchase option states that Bath will have an opportunity to purchase based upon the capital cost less amortization of debt at the time of purchase. All capital costs were based upon pre-determined land value, out-of-pocket costs and reproduction cost new less depreciation for existing improvements.

No 444

COMMERCIAL

FRANKLIN  
ARTERIAL

STREET

INDIA STREET

P.W.D. R/W

CITY OF PORTLAND  
ADVISORY PLAN  
SCALE 1" = 50'

MARKET DATA APPROACH (Continued)

Comparable No. 2 - Sale of San Diego Facility (Improvements Only)



Location: East side of San Diego Harbor, south of downtown area. Frontage on Fifth Avenue, Harbor Drive and Eighth Avenue.  
501 East Harbor Drive, San Diego, California

Date of Sale: June 1, 1985

Documentation: Order No. 1126

Grantor: Campbell Industries

Grantee: San Diego Unified Port District

Price: \$3,150,000.

Terms: Cash

Zoning: Industrial

Land Size: 14.01 acres

Improvements: Six buildings totaling 81,746 square feet. Improvements consisted of a modern, two-story office building and miscellaneous fabrication and storage buildings. Although on the waterfront, no dockage or wharfage was

## MARKET DATA APPROACH (Continued)

available. The property was occupied by Campbell since 1973. This facility was used for small craft repair and fabrication. Campbell occupies the adjoining parcel to the south and has its own dry dock and wharfage upon that site.

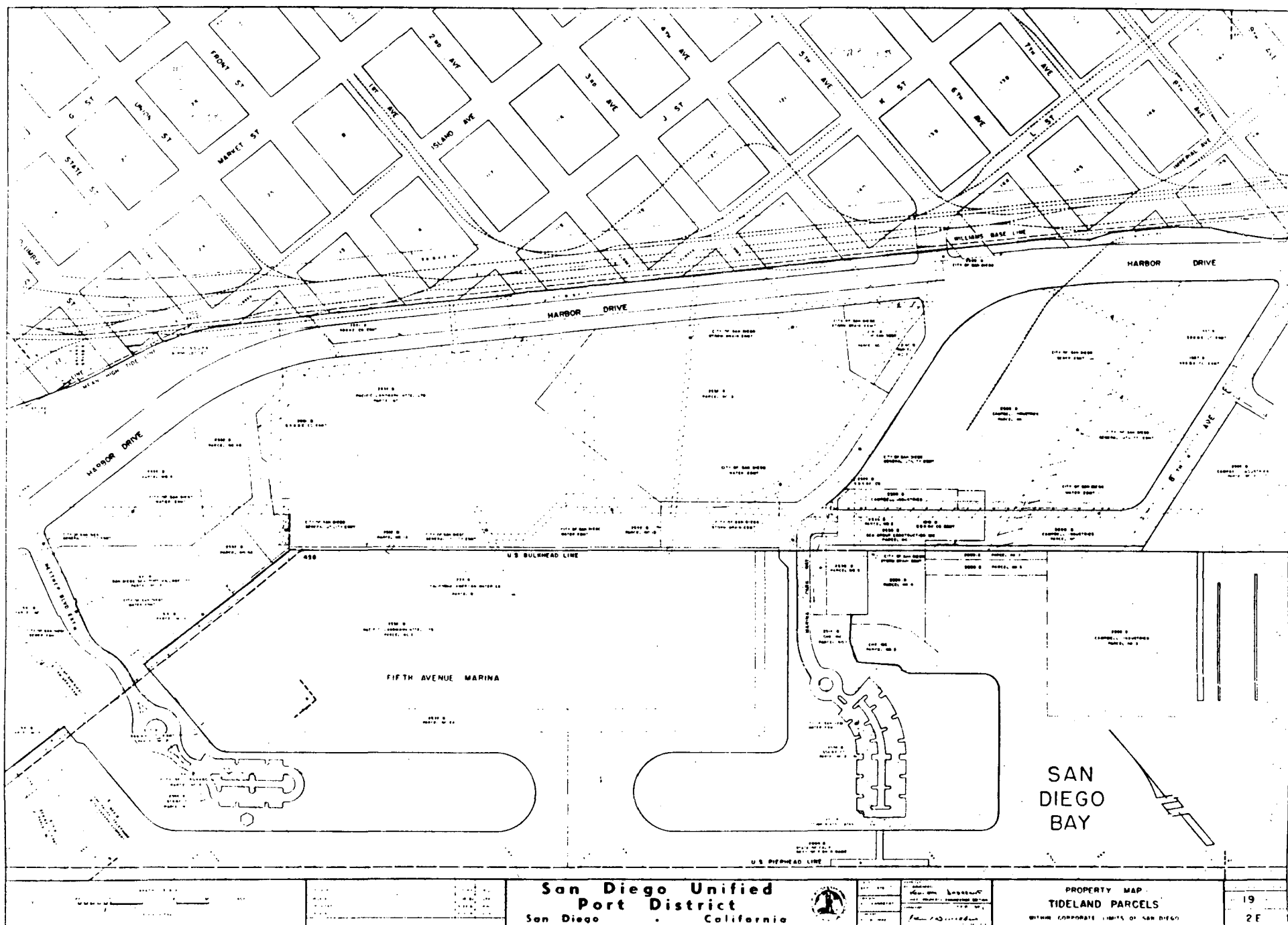
Price per Sq. Ft.  
of Building Area:

\$38.53

## Comments:

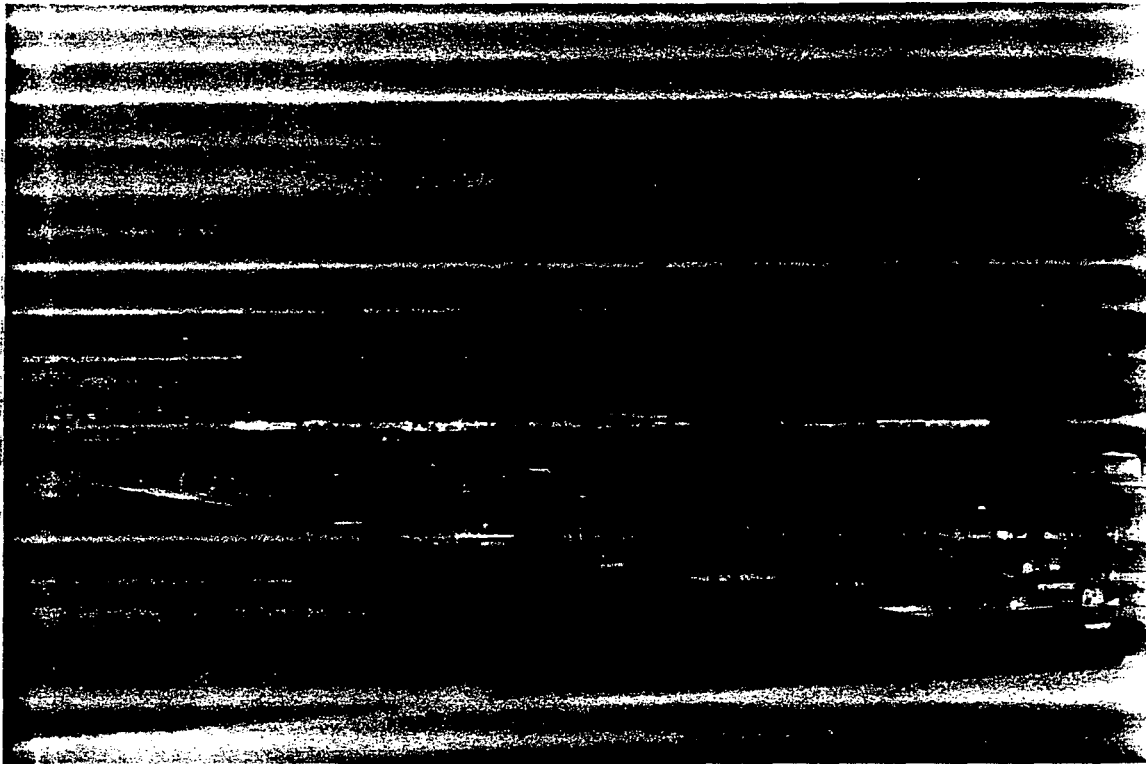
In 1984, the Port prepared a cost approach appraisal of improvements, concluding that the estimated cost less depreciation was \$3,600,000. The negotiations produced a final price of \$3,150,000. Campbell, in addition to the sale, will retain ownership of a 2,160 square foot portable building, which it will remove along with its furniture, tools, equipment and other personal property.

A 66,519 square foot parcel of land area currently under permit to Campbell will be incorporated into a new lease. Campbell's rent, which will continue to be based on its existing rental rate of 60 cents per square foot for land and 15 cents per square foot for water, will decrease from \$49,821 to \$22,745 per month, as a result of the reduced areas under lease. The rent is subject to a CPI adjustment on June 1, 1986. Open rent negotiations will occur on December 1, 1988. One must remember that Campbell Industries leased the land from the Port of San Diego and owned the leasehold improvements. This portion of the agreement reduces the land area that Campbell controls, and gives the Port of San Diego the option to redevelop the area whereby leasehold improvements were purchased.



## MARKET DATA APPROACH (Continued)

## Comparable No. 3 - Todd Facility - San Francisco, California



Date: November 1982

Lessor: Port of San Francisco

Lessee: Todd Company

Leased Property: The Port owned the real property (land and buildings) and the lessee owned the machinery, equipment, cranes and dry docks.

The leased property consisted of 539,000 square feet of buildings, 32.867 acres of upland, and 6.38 acres of submerged tidelands. The owner's (Todd) portion of this location consisted of seven whirley cranes, two floating dry docks, and approximately \$10,000,000 in equipment.

Terms: \$1,800,000 per year for the upland and buildings for the first five years. \$2,040,000 per year for the next 25 years. \$90,919 per year for the submerged land. In addition, Todd must spend \$10,000,000 in improvements to the building within the first five years, and \$1,500,000 in annual maintenance. The major deficiency within the property is the age and condition of the improvements. Many of the facilities date back to World War I. The major upgrading related to:

## MARKET DATA APPROACH (Continued)

1. Building No. 115 - (Fab Shop). This building was constructed in 1917, and was in poor condition. Needed were replacement of the roof, renewal of interior cranes, completely new lighting, new concrete floor, repainting of the exterior, and repair of overhead doors.
2. Building No. 111 - (Warehouse). The building was constructed in 1915, and rebuilt in 1939. The boiler system was never completed. Completion, installation and upgrading of lines is needed.
3. Pier 1. Constructed in 1915, it was rebuilt in 1939. 371' was constricted to pedestrian traffic. The pier represented a fire hazard. The agreement states that the pier was to be removed and a bulkhead reestablished on the west side with installation of concrete caps and extension of necessary fire lines and lighting.
4. Building No. 101 - (Main Office). The building was constructed in 1917, and is in disrepair. The existing boiler needed to be replaced, as well as upgrading the wiring. The roof needed to be replaced. The building has not been remodeled, and is an antiquated facility.
5. Pier 4. Constructed in 1958. The bearing piles had deteriorated 25% beyond the original thickness. The piles were to be encased in concrete. The electrical system needed to be upgraded.
6. Piers and Bulkheads. These vary in age from 15 to 67 years. The fender system needed to be renewed, primarily to prevent damage to more modern ships.
7. Slip No. 4 - (Building Ways). The structural support system for the crane track needed to be improved to support additional weight.

## Rent Indicated:

The monthly rental rate indicated from land improvements is 28 cents per square foot per month compared to the building area. If the capital improvements costs (\$10,000,000) were added to the base rental period, the monthly rental rate would be 59 cents per square foot.

MARKET DATA APPROACH (Continued)

Land rent of the submerged land is 2.7 cents per square foot per month.

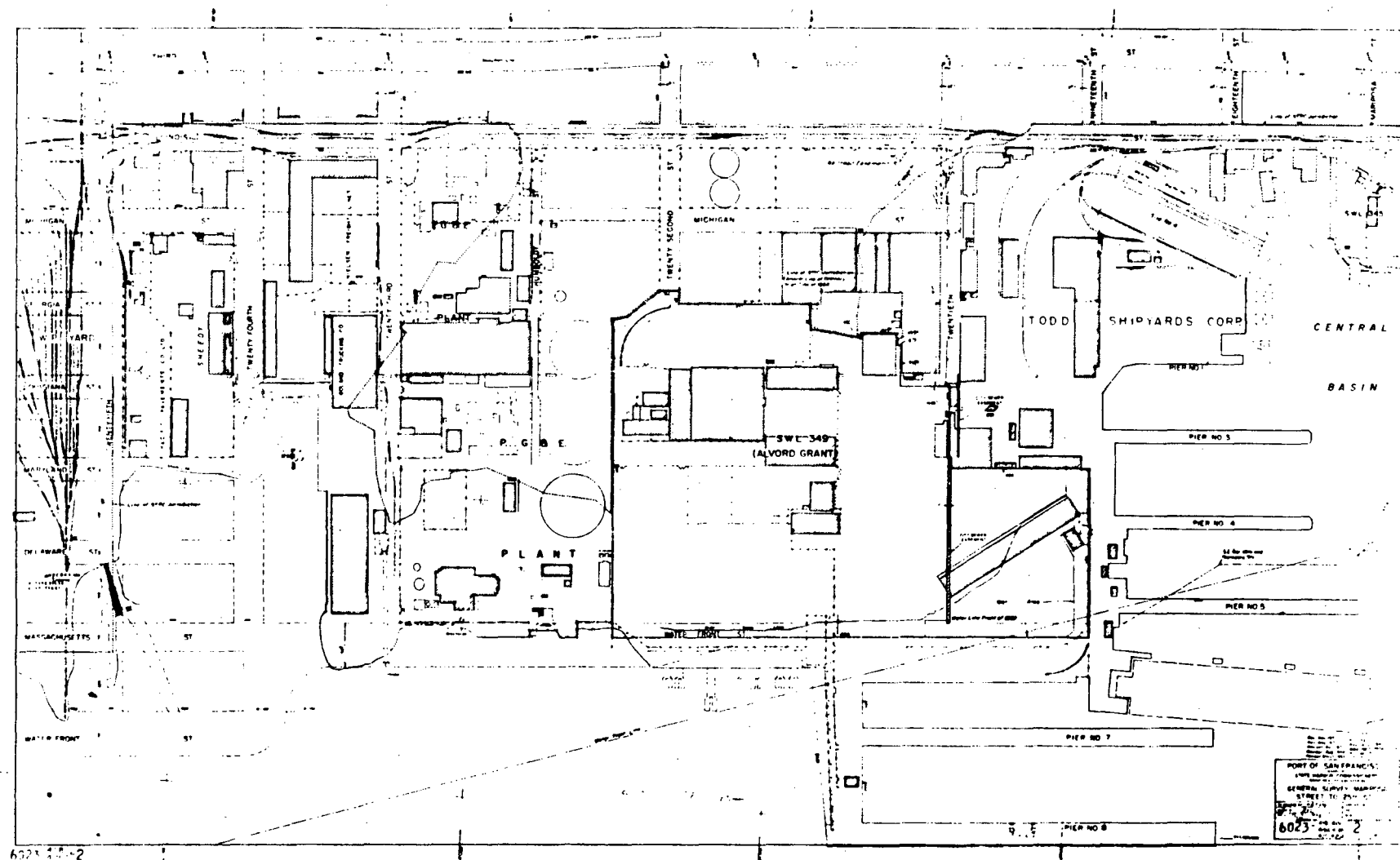
Confirmation:

Jack Conrad (Director of Finance and Administration, Port of San Francisco).

Comments:

As noted in the other properties, land rent was estimated through appraisal and based upon a rate of return, and improvement rent was predicated upon reproduction cost new less depreciation, plus capital costs for deferred maintenance.





## MARKET DATA APPROACH (Continued)

## Plant Sales - Non-Marine Facilities Within Portland SMSA

## Plant Sale No. 4 - American Hardwoods



Location:	12430 S.W. Herman Road, Tualatin, Oregon.
Date of Sale:	March 1984
Grantor:	Pettibone Corp.
Grantee:	American Hardwoods
Price:	\$850,000
Terms:	Cash
Zoning:	Industrial
Land Size:	15.17 acres
Improvements:	42,000 square foot, steel frame and metal clad manufacturing building with minimal, below average-quality office space.
Sale Price/Sq. Ft.:	\$20.24
Sale Price/Sq. Ft. Excluding Land:	\$9.40
Estimated Land Value:	\$30,000/acre

**MARKET DATA APPROACH (Continued)**

Site Coverage: 6%

Confirmed By: Ed Meany, Agent

## MARKET DATA APPROACH (Continued)

## Plant Sale No. 5 - Freman



Location: 2537 N.W. 29th Avenue, Portland, Oregon.

Legal Description: Tax Lot 10, Block 435, Industrial Center Addition.

Date of Sale: March 26, 1984

Documentation: Book 1735, Page 1834

Grantor: Northwest Marine Iron Works

Grantee: Michael O. Freman, et al.

Price: \$412,500

Terms: Cash

Zoning: M-1, Heavy Industrial

Land Size: 65,846 square feet

Improvements: A 16,000 square foot, wood-frame metal clad manufacturing building with a high center bay which is served by a bridge crane and two lower side wings. Yard improvements include a fenced and graveled area and approximately 3,000 square feet of paved parking area. The exact age of

MARKET DATA APPROACH (Continued)

this facility is not available, although it is estimated to date from the 1950s.

Estimated Land Value: \$150,000/acre

Sale Price/Sq. Ft.: \$25.78

Sale Price/Sq. Ft.  
Excluding Land: \$11.83

Confirmed By: John Bowman, Norris, Beggs & Simpson

## MARKET DATA APPROACH (Continued)

## Plant Sale No. 6 - Gender Machine Works



Location:	1335 N.W. Northrup, Portland, Oregon.
Legal Description:	Lots 1-8, Block 214, Couch's Addition.
Date of Sale:	June 13, 1984
Documentation:	Book 1754, Page 0860
Grantor:	Portland Iron Works
Grantee:	Laurie & Associates (Gender Machine Works)
Price:	\$550,000
Terms:	Cash
Zoning:	M-2S
Land Size:	40,000 square feet
Improvements:	A 22,000 square foot, brick and mill Industrial building, built in the late 1920s. Attached is an 18,000 square foot, steel frame metal clad Industrial structure, built in the 1960s. At the time of purchase, the brick building had a wood floor which was subsequently removed and replaced with a new concrete floor at the

## MARKET DATA APPROACH (Continued)

buyer's expense. There is approximately 2,600 square feet of fair-to-average industrial grade office within the brick structure. There is also some second level storage area. The facility contained three bridge cranes, a 5-ton, 7.5-ton and a 10-ton, and numerous jib booms. The facility is used as a machine shop and metal fabricating space.

Sale Price/Sq. Ft.  
Gross Building Area: \$13.75

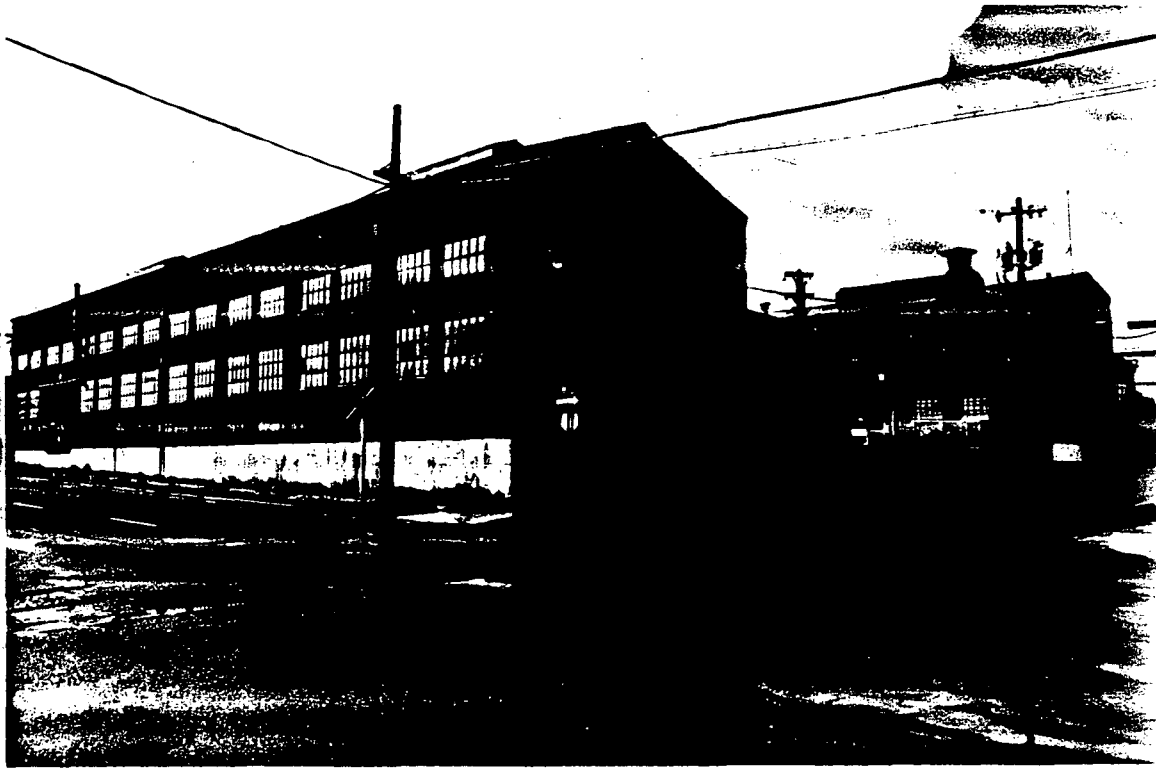
Sale Price/Sq. Ft.  
Excluding Land at  
\$7.00 per Sq. Ft.: \$ 6.75

Confirmed By: Buyer

Comments: The exact square footage of the individual buildings, the size of the office space, and the size of the second level storage floor were unavailable. However, this is a full city block, and the total footprint of the improvements is 40,000 square feet.

MARKET DATA APPROACH (Continued)

Plant Sale No. 5 - Monarch Forge & Machine Works



Location:	Along the south side of N.W. York Street between N.W. 21st Avenue and N.W. 22nd Avenue, Portland, Oregon.
Legal Description:	All of Block 8 and Tax Lot #1 of Lot 1, and Lots 2-8, Block 9, Sherlock's Addition to the City of Portland, and a portion of the vacated N.W. 21st Place.
Date of Sale:	July 25, 1985
Documentation:	Book 1839, Page 571 (Warranty Deed)
Grantor:	Reliance Electric (Monarch Forge & Machine Works)
Grantee:	Expressway Developing Co.
Price:	\$465,000
Terms:	Cash
Zoning:	M-2
Land Size:	92,000 square feet



## MARKET DATA APPROACH (Continued)

## Improvements:

Two wood frame, metal clad high-bay manufacturing buildings of 15,500 square feet and 12,000 square feet, a metal frame, metal clad high-bay manufacturing building of 12,500 square feet, and an attached, 2,500 square foot industrial office building for a total gross building area of 42,500 square feet. Clear heights vary from 16' to 30'. The facility has heavy power and each building is served with a 10-ton bridge crane.

## Sale Price/Sq. Ft.

Gross Building Area:

\$10.94

## Sale Price/Sq. Ft.

Excluding Land at

\$4.00 per Sq. Ft.:

\$ 2.28

## Confirmed By:

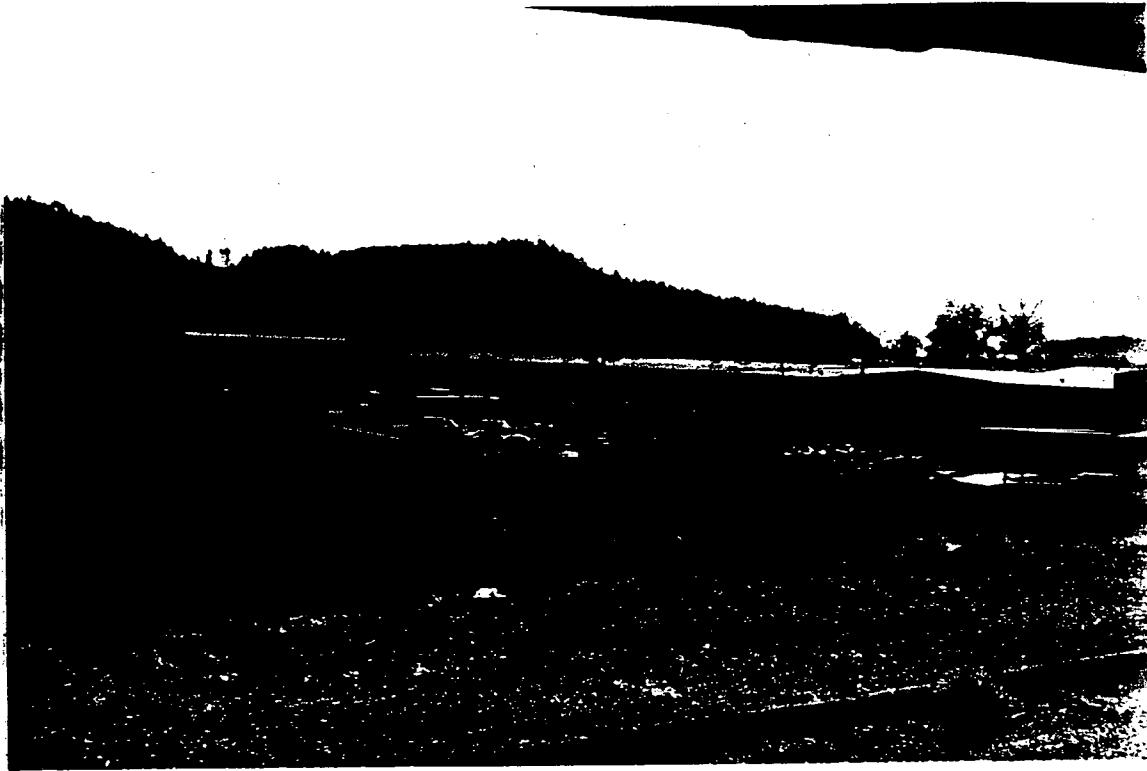
John Bowman, Norris, Beggs &amp; Simpson

## Comments:

Vacant at the time of sale; primarily land value with the improvements making only a relatively small contribution to overall value.

MARKET DATA APPROACH (Continued)

Plant Sale No. 8 - Northwest Pipe & Casing



Location:	9200 S.E. Lawnfield Road, Clackamas, Oregon.
Legal Description:	Tax Lot 1001, Clackamas County Assessor's Map 2S 2E 4D.
Date of Sale:	October 23, 1985
Documentation:	85-37857 (Warranty Deed)
Grantor:	Northwest Pipe & Casing Company
Grantee:	State of Oregon Highway Division
Price:	\$1,200,000
Terms:	Cash
Zoning:	I-3, Industrial, Clackamas County
Land Size:	11.35 acres
Improvements:	A 112,440 square feet of manufacturing and office space, built in 1968, of steel frame, metal clad construction. There is a total of 102,300 square feet of manufacturing space, 8,000 square feet of attached exterior office, plus a small freestanding wood frame office

## MARKET DATA APPROACH (Continued)

structure containing 1,600 square feet, and interior shop office of 1,080 square feet, divided up on two floors. There are four bays with widths of 42', 56' 60' and 60' and a clear height of 20' to the eave. Although the offices are sprinklered, the manufacturing space is not. Nor is it heated. Prior to the sale, the building contained three 20-ton cranes, but all cranes have been removed, and only one set of craneway rails remain.

Sale Price/Sq. Ft.: \$10.67

Estimated Land Value: \$65,000 per acre

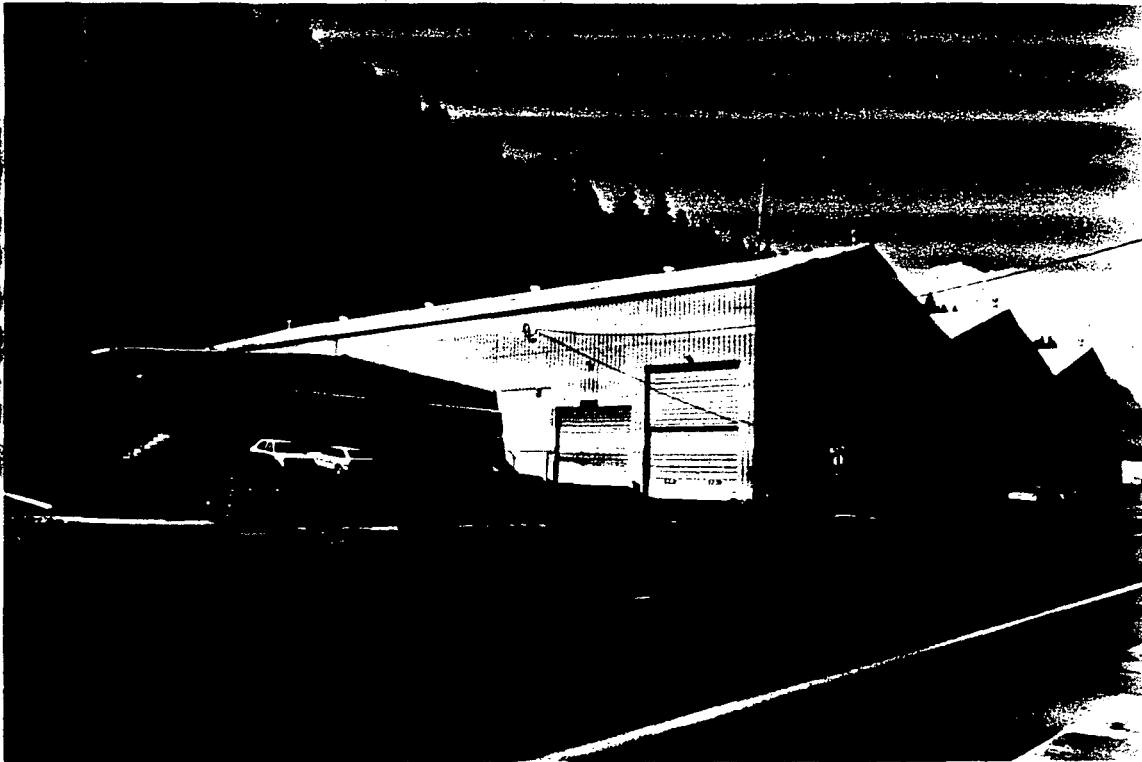
Sale Price/Sq. Ft.  
Excluding Land: \$4.11

Confirmed By: Both the buyer and seller

Comments: The seller was distressed (bankruptcy; Chapter 11) and a spokesman stated that the property would have sold for more, had it not been for their cash requirements. A spokesman for the Highway Division stated that considering the depressed market for this type of facility, their position was that they did indeed pay fair market value. The Highway Division will be using the facility for storage and general warehouse purposes.

MARKET DATA APPROACH (Continued)

Plant Listing No. 9 - Gate City Steel



Location:	3865 N.W. St. Helens Road, Portland, Oregon.
Legal Description:	Tax Lot 98, Section 19, T1N, R1E, County of Multnomah, State of Oregon.
Listing:	Current as of January 1986.
Grantor:	Schnitzer Investment Corporation
Listing Price:	\$1,200,000
Terms:	Negotiable
Zoning:	Industrial
Land Size:	2.99 acres
Improvements:	The main manufacturing building contains 57,600 square feet. The structure is steel frame with metal siding. In addition, there is a 4,500 square foot attached office. The building was constructed in 1966. There are three bays, which are 80' in width. Included in the sale price were two five-ton cranes and one ten-ton crane. Supporting yard improvements including 15,000 square feet of blacktop and 720 lineal feet of railroad spur.

**MARKET DATA APPROACH (Continued)**

Listing Price/Sq. Ft.:	\$19.32
Listing Price/Sq. Ft. Excluding Land:	\$13.06
Land Value Estimate:	\$130,000/acre
Site Coverage:	48%
Confirmed By:	Linda Wakefield, Schnitzer Investment Company.

**MARKET DATA APPROACH (Continued)****Correlation****Ship Repair Facilities**

**Comparable Plant No. 1 - Bath Iron Works, Portland, Maine.** Bath Iron Works leased from the City of Portland, Maine, a ferry landing, with no consideration for the facility. However, to upgrade the site and finger pier to accommodate the outfitting and light fabrication use, \$15 million in upgrades were required. The cost of the upgrades were accommodated through Industrial revenue bonds. Retirement of the bonds is the obligation of Bath Iron Works and are expressed in the agreement in the form of rent. In addition, a floating dry dock was purchased by the State of Maine and rented to Bath \$1 per year. However, significant upgrades were required (\$15 million). Again, Industrial revenue bonds were used as the vehicle for financing the upgrades and Bath was required to amortize the cost. Bath was also required to spend \$5,500,000 for equipment over the first five years of the agreement.

As can be seen by the basic terms of this facility, cost and amortization of debt was the vehicle for the base rent.

**Comparable Plant No. 2 - Campbell Industries, San Diego, California.** San Diego Unified Port District leased 14.01 acres to Campbell Industries, and the Improvements upon that site belong to Campbell. In 1984, the Port prepared a cost approach appraisal of the Improvements, concluding that the estimated cost less depreciation was \$3,600,000. Negotiations took place and some trade-offs were made between the Port and Campbell, and an ultimate sale price for the Improvements of \$3,150,000 was concluded. Campbell owns and operates the adjacent property and some of the amenities were exchanged. The Port of San Diego will use the site for expansion of its ferry system. The Improvements consisted of six buildings totaling 81,746. Improvements consisted of a modern, two-story office building and miscellaneous fabrication and storage buildings. Although on the waterfront, no dockage or wharfage was available. This facility was used for small craft repair and fabrication.

Again, reproduction cost new less depreciation was used as the basis of transfer for the Improvements.

**Comparable Plant Sale No. 3 - Todd Company, San Francisco, California.** The Port of San Francisco owned the real property (land and buildings), and the lessee owned the machinery, equipment, cranes and dry docks. In 1982, a lease was entered into between Todd and the Port of San Francisco to lease 539,000 square feet of buildings, 32.87 acres of upland, and 6.38 acres of submerged tidelands. The basic terms consisted of \$1,800,000 per year for the uplands and buildings for the first five years, and \$2,040,000 for the next 25 years. In addition, Todd is to spend \$10 million in Improvements for the buildings within the first five years, and \$1,500,000 in annual maintenance.

The primary indicator from this lease is that the base rent per square foot for the Improvements is 28 cents, and adding the deferred maintenance is 59 cents per square foot. Discussions with appraisers and real estate brokers in the San Francisco area indicate the 59 cents is almost double normally found within fabricating facilities in the area.

**MARKET DATA APPROACH (Continued)****(Non-Marine Facilities)**

**Comparable Plant Sale No. 4 - American Hardwood** (\$20.24 per square foot of gross building area) is located along the south line of S.W. Herman Road, Tualatin, Oregon. This is the sale of a 42,000 square foot manufacturing building. It has full metal skin with no wainscoting, including only minimal low quality improved office space and lacked sewer at the time of sale. The structure is older, and exhibited a considerable degree of wear and deferred maintenance. The structure is not insulated. In addition, it is inferior in terms of clear height, and bay widths of 40'. Although locationally inferior to the subject, this property has lower site coverage (6%), which is reflected in the sale price.

**Comparable Plant Sale No. 5 - Freeman** (\$25.78 per square foot of gross building area). This smaller, 16,000 square foot wood frame, metal clad, high-bay manufacturing facility was purchased in of March 1984, for \$412,500. This is a newer facility located in the northwest industrial section of the city of Portland. Most importantly, this facility is much smaller than the subject. This facility has a high center bay and two lower side wings, which makes this building somewhat inefficient. The yard improvements consist of gravel parking and a 3,000 square foot, paved parking area. This facility is inferior to the subject.

**Comparable Plant Sale No. 6 - Gender Machine Works** (\$13.75 per square foot of gross building area). This was the sale of an entire city block improved with a 40,000 square foot manufacturing facility (22,000 square feet of 1920 brick and mill with a wood floor and 18,000 square foot steel frame, metal clad building, built in the 1960s). The sales price was \$550,000, which equates to \$13.75 per square foot of gross building area. Overall, this is considered to be an inferior property in terms of age and quality of improvements. In addition, there is no off-street parking or yard storage with the facility.

**Comparable Plant Sale No. 7 - Monarch Forge & Machine Works** (\$10.94 per square foot of gross building area). Along the south side of N.W. York Avenue, between N.W. 21st and 22nd Avenues, this property sold for \$465,000. The three high-bay manufacturing buildings totaling 42,500 square feet sold for a sales price of \$10.94 per square foot of gross building area. This sale includes two wood frame, metal clad, high-bay manufacturing buildings, and one metal frame, metal clad, high-bay manufacturing building, plus an attached 2,500 square foot industrial office building. The facility has heavy power, and each building is served by a ten-ton bridge crane. This facility is vastly inferior to the subject in terms of quality of improvements.

**Comparable Plant Sale No. 8 - Northwest Pipe & Casing Co.** (\$10.67 per square foot of gross building area). Purchased in October of 1985 for \$1,200,000, the improvements consist of 112,440 square foot manufacturing and office facility built in 1968. The structure is steel frame with a metal clad exterior. There is a total of 102,300 square feet of manufacturing space, 8,000 square feet of attached exterior office, and a small freestanding wood frame office structure containing 1,600 square feet. This facility is located in the Clackamas Industrial Park, which is 15 miles south and east of the Swan Island Industrial Park. At the time of sale the seller was distressed (bankruptcy; Chapter 11), and a spokesman stated that the property would have sold for more had it not been for the cash requirements.

## MARKET DATA APPROACH (Continued)

Comparable Plant No. 9 - Gate City Steel (listing price of \$19.32 per square foot of gross building area). This is the current listing price for the 62,100 square foot facility in the Gullids Lake area of northwest Portland. It has been available for sale or lease since 1982, originally at a price which was 25% higher than the current listing. The long-term vacancy and drastic reduction in price are reflective of the soft market for high-bay manufacturing space in the greater Portland metropolitan area.

## Summary

The subject property and its proximity to the Port of Portland ship repair facility offers greater versatility than any of the other marine and non-maritime comparable properties. The indicators of market activity in the marine facilities were a function of cost. Few were for the elimination of competition. Prices paid were calculated in light of the cost to create an alternative assemblage of assets or to avoid and reduce current costs incurred in operating less satisfactory facilities. Only in the instance of the Campbell facility in San Diego did the Port acquire the facility for a change in use.

In the cost approach section of this report land value, reproduction cost new less depreciation of improvements and machinery and equipment were considered. The appropriate depreciation was weighed and a final estimate of value was concluded. Because the market demonstrates that normal processes of exchange are based upon this type of information, the estimated value by the market data approach is as found in the cost approach. Those values are:

Land	\$ 2,012,000
Improvements	8,509,700
Equipment	<u>6,481,230</u>
Total	\$17,002,930
Rounded	\$17,000,000

The local market was examined for fabricating facilities that could be compared with the subject property and an estimate of value derived. Unfortunately, all of the recent market activity was for facilities inferior to the subject. Not only were the physical facilities inferior, locations were inferior. For this reason, the overall market is not well represented. The highest price cited in the non-maritime sales was \$25.78 per square foot. If this rate were applied to the subject property, an indicated value of:

$$293,978 \text{ square feet} \times \$25.78/\text{square foot} = \$ 7,580,000$$

Note: to the above real estate the value of the machinery and equipment must be added (\$6,481,230), equaling \$14,060,000, rounded. This value conclusion represents the value of the subject property if sold for alternate use as a general purpose fabricating facility not in support of a maritime activity.

Two levels of value are found in the market data approach:



MARKET DATA APPROACH (Continued)

1. The standard of market activity among maritime-related fabricating facilities is market value of land plus reproduction cost less depreciation of the improvements. When facilities are leased or sold, this method is used as the foundation for value in exchange.
2. Facilities that are not maritime-related are sold or leased along more traditional lines than we would find in commercial real estate. Properties react to supply and demand. Proximity to external amenities (such as single point of delivery, dry docks, railheads, etc.) are not the dominant consideration.

Since the subject property is oriented toward maritime activity, and since the assignment at hand is to estimate the market value of the subject property in use and at its highest and best use, the activities found within the maritime market represent the dominant indicator and suggest that the value premium over value in exchange for value in use is warranted.

**INCOME APPROACH**

There has been some rental activity within the shipbuilding industry whereby information can be provided to give us some insight into the Northwest Marine Iron Works facility.

**Todd Facility In San Francisco**

The Port of San Francisco leased to Todd Company 539,000 square feet of buildings, 32.87 acres of upland and 6.38 acres of submerged tidelands. Todd owned whirley cranes, two floating dry docks, and approximately \$10,000,000 of equipment on site. The base rental for the land and improvements was \$1,800,000 a year for the first five years, and \$2,040,000 per year for the next 25 years. A requirement was placed upon Todd by the Port to upgrade the World War I facility and to spend \$10,000,000 in capital improvements over the lease term. This significantly increased the rent and, consequently, the rental rate. The base rental rate as compared to the square foot area of buildings equalled 28 cents per square foot, and after the costs of deferred maintenance were added to the rent, the rate was increased to 59 cents per square foot.

The Todd facility is vastly inferior to the subject in both quality of buildings and general layout of the facility. However, if the 59 cents per square foot were applied to the subject building (293,978 square feet), a monthly rental rate of \$173,447, or \$2,081,000 per year would be indicated. If vacancy and operating expense of 15% were deducted from the potential gross income, and a capitalization rate of 12% were applied to the net operating income, a value of approximately \$14,700,000 would be indicated. Adding the machinery and equipment of \$6,400,000, an indicated value of \$21,000,000 would be produced from this market information.

**Campbell Lease from the Port of San Diego**

The 1985 agreement between the Port of San Diego and Campbell provides for land rent based upon a rental rate of 65 cents per square foot per month. The subject property has 14.37 acres (625,957 square feet). Multiplying the indicated rent from the Port of San Diego times the subject's size would indicate an annual rent of \$406,872. This would equal \$1.36 per square foot per year of building area. Dividing the annual rent by 12 months equals a monthly rental rate of 11.4 cents per square foot per month. Comparing the 59 cents per square foot rent in the Todd facility to the 11.4 cents indicated in the Campbell lease, one can easily distinguish the difference in that no rent has been attributed to the buildings upon the site.

**Port of Portland (Maine) - Bath Iron Works**

In 1982, the City of Portland, Maine negotiated with Bath Iron Works to participate in the conversion of a ferry landing into a major ship repair and outfitting facility. The three acres of upland and pier were given no base rental value. The capital improvements to convert the facility were paid for by Bath in the form of rent of \$1,907,000 per year. The dry dock facilities were provided in the same manner by the State of Maine. The machinery and equipment was provided by Bath.

**INCOME APPROACH (Continued)**

The subject has similar facilities on site (fabricating) and dry dock available and provided by the Port of Portland, Oregon. The subject has the advantage of paying only when using the dry dock, and sharing costs with Dillingham and Lockheed. No rental rate can be derived from this transaction to indicate rental rates for the subject.

**Conclusion**

This appraiser has made a survey of the Portland metropolitan area as to rental rates for non-marine fabricating facilities. The rental rates found within the market were significantly below those found within the maritime market. This tends to support the conclusions found within the market data approach that in-use maritime facilities command higher rates than those facilities used for general fabrication.

This appraiser was unable to convert income data into value in that within the maritime market the properties generally are owner-occupied, or the standard of rent was based upon land value plus reproduction cost new less depreciation, and a rate of return assigned to that conclusion. This market condition was generally found within Port facilities.

The rental rates in the non-marine (general fabricating) market were usually determined by real estate brokers, appraisers or general negotiations between landlord and tenant. Because of the depressed nature of the Portland market, the rental rates vary depending upon need of the facility and location. Again, the information was inconclusive and not relied upon by this appraiser.

For the reasons stated above, this appraiser has not utilized the income approach in this appraisal.

**FINAL RECONCILIATION OF VALUE**

The purpose of this report is to estimate the value of the fee simple interest of land and improvements, as well as machinery and equipment. The value premise for real estate is the value in exchange, taking into consideration its proximity to the Port of Portland's ship building and repair facilities and its dedicated use. The value premise for equipment is the value in exchange on an in-use and installed basis.

Two approaches to value were applied in estimating market value:

<b>Cost Approach</b>	
Land value	\$ 2,012,000
Building and yard improvements	5,809,700
Equipment	<u>8,481,230</u>
Total (rounded)	\$17,000,000
<b>Market Data Approach</b>	
Marine use - Including equipment	\$17,000,000
General fabricating - Including equipment	\$14,060,000

The correlation and final estimate of value is the last step in the appraisal process. It involves weighing of the individual valuation techniques in relation to their substantiation by market and other sources of data, and reliability and technique relative to the type of property.

In this appraisal two approaches to value have been used. These approaches are discussed as follows:

**Cost Approach**

Land value can be reasonably estimated from current land sales. The subject's size was estimated from the records of the Multnomah County Assessor's office and is subject to final survey. The adjustment process gave an indicated value for the subject site of \$140,000 per acre, which should be assessed against the final acreage amount. The estimate of reproduction cost new was taken from two different sources. These sources were compared against each other to arrive at a final estimate of the reproduction cost new. The construction date of the improvements was 1943. Since that date, major remodeling took place in 1969. In 1983 major refurbishing took place within the plant. This refurbishing and remodeling modernized the facility to a degree whereby it competes with more recently constructed facilities.

Added to the conclusion found above is the estimated value of machinery and equipment.

**Market Data Approach**

Two levels of market activity were found in estimating value by this approach. The first is maritime activity whereby marine construction or repair facilities were investigated. General market activity was observed, and indications of methodology could be reviewed. The methodologies found that

## FINAL RECONCILIATION OF VALUE (Continued)

when facilities were leased or sold, the basis of transfer or rent was predicated upon the cost approach. This lent support to the conclusion found within the cost approach.

The second level of market activity was found within the general fabricating industry. Five sales of facilities traded within the last few years, and provided general indicators from that market. An inspection of those properties indicated they were generally inferior to the subject. That is, the overall quality of construction, maintenance and location were inferior to the subject. However, an indication could be derived when reducing the sale prices and prices per square foot of the facilities. The higher end of the range found was applied to the subject property and demonstrated the value of the subject should it be placed within the general fabricating field.

## Conclusion

The value concluded by the cost approach and research of the maritime market demonstrated that the cost approach is the basis for value in exchange within that industry. For this reason, this appraiser has estimated the value of the subject property to be:

Land	\$ 2,012,000
Building and yard improvements	8,509,700
Equipment	<u>6,481,230</u>
Total (rounded)	\$17,000,000

# **ADDENDA**

**CONTINGENT CONDITIONS, LIMITING CONDITIONS  
AND SPECIAL ASSUMPTIONS**  
(Unless specifically stated otherwise in this report)

That title to the property appraised is good and marketable.

The management of the property is assumed to be competent and the ownership in responsible hands.

That the property is free and clear of any mortgage, trust deed, lien or other encumbrance.

Value reported assumes all taxes and assessments have been paid.

Value is reported in dollars on the basis of the currency prevailing on the date of appraisal.

The distribution of value between land and building applies only under the present program of utilization and is invalidated if used in making a summation appraisal.

The value premises cited in this report are considered foundational and basic to the value opinions reported herein, and the right is hereby reserved by Curtis, Slocom & Jordan, Inc. to alter, revise and/or rescind any of the value opinions should any subsequent or additional data be found, or in the event the conditions are modified to any extent.

No responsibility for legal matters is assumed and no right to expert testimony is included.

No survey has been made. Valuation is reported without regard to questions of title, boundaries, encumbrances and encroachments.

That the property is free of insect infestation, dry rot, and fungus growth. It is assumed that there are no hidden or unapparent conditions of the property, subsoil or structures which would render it more or less valuable.

This appraisal is not based on the completion of projected public or private improvements.

Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser.

The appraiser has no present or contemplated future interest in the property which is not specifically disclosed in this report; that neither the employment to make the appraisal nor the compensation is contingent upon the amount of the valuation reported; and that to the best of his knowledge and belief, all statements and opinions in this report are true and correct and no important relevant facts withheld.

Neither all nor any part of the contents of this report shall be conveyed to the public through advertising, public relations, news, sales or other media without the written consent and approval of the author, particularly as to valuation conclusions, or any reference to the American Institute of Real Estate Appraisers or to the MAI designation.

**GERALD L. CURTIS**

**General Experience**

1974	Curtis, Slocom & Jordan, Inc.; Principal
1963	Real Estate Appraiser

**Professional Education**

**American Institute of Real Estate Appraisers Courses Taken:**

1984		Industrial Valuation
1984		Standards of Professional Practice
1971	Course 6	Techniques of Capitalization
1971	Course 2	Real Estate Appraisal Problems
1969	Course 8	Residential Appraising
1969	Course 1	Introduction to Real Estate Appraising

**Society of Real Estate Appraisers Courses Taken:**

1972	Special Application of Appraisal Techniques
1968	Introduction to Real Estate Appraising

**Qualified Instructor**

**American Institute of Real Estate Appraisers:**

1978	Course II	Portland State University
1976	Course 1-B	Portland State University

**Society of Real Estate Appraisers:**

1981	Course 201	Lane Community College
1980	Course 201	Lewis & Clark College
1978	Course 201	Portland State University
1977	Course 201	Boise State University
1976	Course 201	Portland State University
1976	Course 201	Chemeketa Community College
1974	Course 201	Portland State University
1974	Course 101	University of Nebraska
1971	Course 101	Portland State University

**Licenses**

**Real Estate Broker, State of Oregon**

**Court Experience**

**Qualified as Expert Witness**

**Professional Organizations**

MAI	Member of the Appraisal Institute
	American Institute of Real Estate Appraisers
	Past President of Oregon Chapter #14
NAR	National Association of Realtors
OAR	Oregon Association of Realtors; Board of Directors, 1982
	Portland Board of Realtors



**GERALD L. CURTIS (Continued)**

**Certification**

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAIs and RMs who meet the minimum standards of this program are awarded periodic educational certification. I am certified under this program through December 15, 1986.

**Representative Clients Served**

**Government Agencies**

Army Corps of Engineers  
Clackamas County, Oregon  
General Services Administration  
United States Post Office  
Portland Development Commission

State of Oregon  
U.S. Attorney's Office  
Department of Veterans' Affairs  
Oregon State Highway Department  
City of Portland

**Lending Institutions**

American Diversified Savings Bank  
Amfac Mortgage Corporation  
Bank of California  
Benj. Franklin Savings & Loan Assoc.  
Columbia Mortgage Company  
Crater National Bank  
Equitable Savings & Loan  
Farwest Federal Savings & Loan  
First Bank Mortgage Company  
First Hawaiian Bank  
First Interstate Bank of Oregon  
Willamette Savings & Loan  
Merrill Lynch

First Federal Savings  
First State Bank of Oregon  
Fred Meyer Savings & Loan  
National Mortgage Company  
The Oregon Bank  
Pacific First Federal Savings & Loan  
Pacific Mutual Life  
Prudential Life Insurance Company  
Standard Insurance Company  
Travelers Insurance Company  
Wells Fargo Bank  
Foster Marshall Realty

**Private Companies**

Capital Consultants, Inc.  
Employers Insurance Company  
General Foods Corporation  
Convoy Company  
Hayden Island, Inc.  
Portland Orthopedic Clinic  
Owens Illinois, Inc.  
Northwest Marine Iron Works  
First Farwest Corporation  
Winmar Corporation  
Sivers Construction Company  
Coldwell Banker  
The Landsing Corporation  
Lloyd Corporation

Kentucky Fried Chicken  
Gilmore Steel Corporation  
Union Pacific Railroad  
Southern Pacific Railroad  
Centennial Mills  
Canteen Company of Oregon  
Schnitzer Investment Company  
Pope & Talbot, Inc.  
ZRZ Corporation  
Crown Zellerbach  
Pacific Realty Associates  
Cushman & Wakefield of Oregon, Inc.  
Buttes Gas & Oil

**RICHARD A. KAUFMAN**

**Career Experience**

1984           Curtis, MacKenzie & Slocom, Inc.;  
                  Industrial Division Manager  
1970-1984     American Appraisal Associates, Inc.  
                  Vice President and Manager of the General Appraisal  
                  Company (Division), Portland, Oregon  
1976           Potlatch Corporation, Lewiston, Idaho; Fixed Asset Auditor  
1968-1970     Freightliner Corporation, Portland, Oregon  
                  Industrial Engineer

**Education**

1980-1984     American Society of Appraisers International Annual  
                  Conferences  
                  Machinery & Equipment and Business Valuation Sessions  
1976-1984     Oregon Department of Revenue  
                  Industrial Appraisal Seminars  
                  Lecturer 1977, 1981, 1984  
1974           Course 1A - American Institute of Real Estate Appraisers  
1966           Oregon State University, Bachelor of Science Degree  
                  School of Engineering

**Professional Affiliations and Licenses**

Licensed Oregon Real Estate Broker - Since August, 1977  
Currently Licensed Designated Appraiser  
Through September 30, 1985  
American Society of Appraisers  
Regional Governor - Pacific Northwest  
Past President, Portland Chapter  
Senior Member designated in Machinery and Equipment  
discipline since 1976

**Certification**

The American Society of Appraisers conducts a voluntary program of periodic recertification for its designated Senior members. The criteria for the recertification includes participation in continuing education programs, instructional duties in appraisal courses, authorship of literary contributions to the profession, and organizational contributions to the society such as serving as an elected chapter or national officer. I am recertified under this program through 1989.

**Court Experience**

Circuit Court, State of Oregon  
Superior Court, State of Washington  
Special Tribunals  
Boards of Equalization  
Department of Revenue

CERTIFICATE OF APPRAISAL

The undersigned does hereby certify as follows:

I, Gerald L. Curtis, have inspected the property.

I have no present or contemplated future interest in the real estate that is the subject of this appraisal report.

I have no personal interest or bias with respect to the subject matter of this appraisal report or the parties involved.

To the best of my knowledge and belief, the statements of fact contained in this appraisal report, upon which the analysis, opinions and conclusions expressed herein are based, are true and correct.

This appraisal report sets forth all of the limiting conditions (imposed by the terms of my assignment or by the undersigned) affecting the analysis, opinions and conclusions contained in this report.

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAIs and RMs who meet the minimum standards of this program are awarded periodic educational Certification. I am currently certified under this program.

This appraisal report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers of the National Association of Realtors and the signator accepts responsibility for the report.

One (or more) of the signatories of this appraisal report is a member (or candidate) of the American Institute of Real Estate Appraisers of the National Association of Realtors. The Bylaws and Regulations of the Institute require each member or candidate to control the use and distribution of each appraisal report signed by such member or candidate. Therefore, except as hereinafter provided, the party for whom this appraisal report was prepared may distribute copies of this appraisal report, in its **entirety**, to such third parties as may be selected by the party for whom this appraisal report was prepared. However, **portions of this appraisal report shall not be given to third parties without prior written consent** of the signatories of this appraisal report. Further, **neither all nor any part of this appraisal report shall be disseminated to the general public by the use of advertising media, public relations media, news media, sales media or other media for public communication without the prior written consent of the signatories of this appraisal report.**

CERTIFICATE OF APPRAISAL (Continued)

No one other than the undersigned prepared the analysis, conclusions, and opinions concerning real estate that are set forth in this appraisal report.

The real property which is the subject of this appraisal report was valued as of March 20, 1986.



Gerald L. Curtis, MAI  
Real Estate Appraiser

APPRAISAL REPORT

**CURTIS, SLOCOM & JORDAN, INC.**

NWMAR133615

**AN APPRAISAL REPORT**

for

Mr. William Zavin  
Northwest Marine Iron Works  
5555 N. Channel Avenue  
Portland, Oregon 97217

**14.37 ACRES/BUILDINGS/MACHINERY  
N. DOLPHIN ST. & N. LAGOON AVENUE  
PORTLAND, OREGON**

by

Gerald L. Curtis, MAI  
Richard A. Kaufman, ASA  
CURTIS, SLOCOM & JORDAN, INC.

CURTIS, SLOCOM & JORDAN, INC.  
REAL ESTATE CONSULTANTS & APPRAISERS

October 3, 1986

Gerald L. Curtis, MAI  
Patrick C. Jordan, MAI  
John E. Slocum, MAI  
Stephen T. Smith, MAI

Mr. William Zavin  
President  
Northwest Marine Iron Works  
5555 N. Channel Avenue  
Portland, Oregon 97217

Robert L. Hickok  
Anthony J. Morton  
Donald L. Singer

Dear Mr. Zavin:

At your request, we have made an appraisal of the land located at 5555 N. Channel Avenue, Portland, Oregon.

The purpose of this appraisal is to estimate the market value of the unencumbered fee simple interest in the land.

The market value of the subject property is estimated in terms of the price on which a willing and well-informed seller and a willing and well-informed buyer would agree, in the absence of any extraordinary compulsion on either's part, and after reasonable exposure of the property on the open market.

No special consideration was given to the unique location of the site; that is its proximity to the Port of Portland's ship repair facility. It has been the experience of this appraiser that ship repair facilities command a premium, when active work is taking place within the yard. This information was gained through a previous study from various yards in the United States. The scope of this assignment did not allow an update of that study and therefore industrial sales in the Portland area were utilized. General land sales in Swan Island, Mocks Bottom and other industrial areas were researched for levels of activity.

The site is a 14.37 acre parcel, with 1,138 feet of frontage on N. Lagoon Avenue, 287 feet on N. Dolphin Street and 638 feet of frontage on N. Channel Avenue. The site is in the shape of an "L."

The neighborhood in which it is situated is known as the Swan Island Industrial Park. The site is zoned industrial and has all the utilities and supporting public services to support an industrial use.

In order to make this appraisal, we have made a detailed inspection of the subject property. We have reviewed sales and asking prices of similar properties in the vicinity of the subject. The data collected has been weighed, compared, and analyzed, in order to arrive at an estimate of value for the subject property.

This report represents a summary of my findings with the supporting information and analysis in the files of this appraiser.

Page 2  
Mr. William Zavin  
October 3, 1986

Subject to the aforementioned assumptions, we have estimated that the market value of the subject property, as of October 3, 1986, is:

**TWO MILLION TWO HUNDRED TWENTY-SEVEN THOUSAND DOLLARS**

**\$2,227,000**

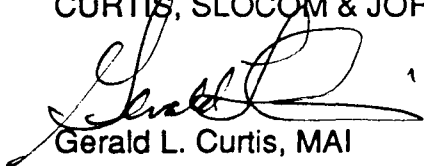
This report is subject to the Contingent Conditions, Limiting Conditions, and Special Assumptions and Certificate of Appraisal attached. This report has been made in conformity with, and is subject to, the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers.

The AIREA requires each member to control the use and distribution of each signed report. Among other restrictions, it prohibits the distribution of only selected portions of the report, and it prohibits dissemination of all or part of a report to the general public by use of the public media or private promotional media, without the prior written consent of the signatories.

The undersigned has no personal interest, either present or contemplated, in the subject property, and certifies that no fee, received or to be received, or the employment of his services is in any way contingent upon the opinion reported herein.

Respectfully submitted,

CURTIS, SLOCOM & JORDAN, INC.



Gerald L. Curtis, MAI



**CONTINGENT CONDITIONS, LIMITING CONDITIONS  
AND SPECIAL ASSUMPTIONS**  
(Unless specifically stated otherwise in this report)

That title to the property appraised is good and marketable.

The management of the property is assumed to be competent and the ownership in responsible hands.

That the property is free and clear of any mortgage, trust deed, lien or other encumbrance.

Value is reported in dollars on the basis of the currency prevailing on the date of appraisal.

The distribution of value between land and building applies under the present program of utilization and is invalidated if used in making a summation appraisal.

The value premises cited in this report are considered foundational and basic to the value opinions reported herein, and the right is hereby reserved by Curtis, Slocum & Jordan, Inc. to alter, revise and/or rescind any of the value opinions should any subsequent or additional data be found, or in the event the conditions are modified to any extent.

No responsibility for legal matters is assumed and no right to expert testimony is included.

No survey has been made. Valuation is reported without regard to questions of title, boundaries, encumbrances and encroachments.

That the property is free of insect infestation, dry rot, and fungus growth. It is assumed that there are no additional hidden or unapparent conditions of the property, including the presence of asbestos, polychlorinated biphenyl and polyurethane or other proven or potentially hazardous material which would render it more or less valuable.

This appraisal is not based on the completion of projected public or private improvements.

Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser.

The appraiser has no present or contemplated future interest in the property which is not specifically disclosed in this report; that neither the employment to make the appraisal nor the compensation is contingent upon the amount of the valuation reported; and that to the best of his knowledge and belief, all statements and opinions in this report are true and correct and no important relevant facts withheld.

Neither all nor any part of the contents of this report shall be conveyed to the public through advertising, public relations, news, sales or other media without the written consent and approval of the author, particularly as to valuation conclusions, or any reference to the American Institute of Real Estate Appraisers or to the MAI designation.

## **GERALD L. CURTIS**

### **General Experience**

1974	Curtis, Slocom & Jordan, Inc; Principal
1963	Real Estate Appraiser

### **Professional Education**

#### **American Institute of Real Estate Appraisers Courses Taken:**

1984		Industrial Valuation
1984		Standards of Professional Practice
1971	Course 6	Techniques of Capitalization
1971	Course 2	Real Estate Appraisal Problems
1969	Course 8	Residential Appraising
1969	Course 1	Introduction to Real Estate Appraising

#### **Society of Real Estate Appraisers Courses Taken:**

1972	Special Application of Appraisal Techniques
1968	Introduction to Real Estate Appraising

### **Qualified Instructor**

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1976	Course 1-B	Portland State University

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1977	Course 201	Boise State University
1976	Course 201	Portland State University
1976	Course 201	Chemeketa Community College
1974	Course 201	Portland State University
1974	Course 101	University of Nebraska
1971	Course 101	Portland State University

### **Licenses**

**Real Estate Broker, State of Oregon**

### **Court Experience**

**Qualified as Expert Witness**

### **Professional Organizations**

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	American Institute of Real Estate Appraisers
	Past President of Oregon Chapter #14
NAR	National Association of Realtors
OAR	Oregon Association of Realtors; Board of Directors, 1982
	Portland Board of Realtors

## **GERALD L. CURTIS (Continued)**

### **Certification**

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAIs and RMs who meet the minimum standards of this program are awarded periodic educational certification. I am certified under this program through December 15, 1986.

### **Representative Clients Served**

#### **Government Agencies:**

Army Corps of Engineers  
Clackamas County, Oregon  
United States Post Office  
Portland Development Commission

State of Oregon  
U.S. Attorney's Office  
Oregon State Highway Department  
City of Portland

#### **Lending Institutions:**

American Diversified Savings Bank  
Amfac Mortgage Corporation  
Bank of California  
Benj. Franklin Savings & Loan Assoc.  
Columbia Mortgage Company  
Crater National Bank  
Equitable Savings & Loan  
Farwest Federal Savings & Loan  
First Bank Mortgage Company  
First Hawaiian Bank  
First Interstate Bank of Oregon  
Willamette Savings & Loan  
Merrill Lynch

First Federal Savings  
First State Bank of Oregon  
Fred Meyer Savings & Loan  
National Mortgage Company  
The Oregon Bank  
Pacific First Federal Savings & Loan  
Pacific Mutual Life  
Prudential Life Insurance Company  
Standard Insurance Company  
Travelers Insurance Company  
Wells Fargo Bank  
Foster Marshall Realty

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Employers Insurance Company  
General Foods Corporation  
Convoy Company  
Hayden Island, Inc.  
Portland Orthopedic Clinic  
Owens Illinois, Inc.  
Northwest Marine Iron Works  
First Farwest Corporation  
Winmar Corporation  
Sivers Construction Company  
Coldwell Banker  
The Landsing Corporation  
The Lloyd Corporation

Kentucky Fried Chicken  
Gilmore Steel Corporation  
Union Pacific Railroad  
Southern Pacific Railroad  
Centennial Mills  
Canteen Company of Oregon  
Schnitzer Investment Company  
Pope & Talbot, Inc.  
ZRZ Corporation  
Crown Zellerbach  
Pacific Realty Associates  
Cushman & Wakefield of Oregon, Inc.  
Buttes Gas & Oil

## CERTIFICATE OF APPRAISAL

The undersigned does hereby certify as follows:

I, Gerald L. Curtis, have inspected the property.

I have no present or contemplated future interest in the real estate that is the subject of this appraisal report.

I have no personal interest or bias with respect to the subject matter of this appraisal report or the parties involved.

To the best of my knowledge and belief, the statements of fact contained in this appraisal report, upon which the analysis, opinions and conclusions expressed herein are based, are true and correct.

This appraisal report sets forth all of the limiting conditions (imposed by the terms of my assignment or by the undersigned) affecting the analysis, opinions and conclusions contained in this report.

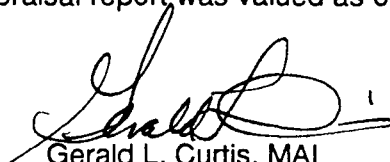
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One (or more) of the signatories of this appraisal report is a member (or candidate) of the American Institute of Real Estate Appraisers of the National Association of Realtors. The Bylaws and Regulations of the Institute require each member or candidate to control the use and distribution of each appraisal report signed by such member or candidate. Therefore, except as hereinafter provided, the party for whom this appraisal report was prepared may distribute copies of this appraisal report in its entirety, to such third parties as may be selected by the party for whom this appraisal report was prepared. However, **portions of this appraisal shall not be given to third parties without prior written consent of the signatories of this appraisal report.** Further, **neither all nor any part of this appraisal report shall be disseminated to the general public by the use of advertising media, public relations media, news media, sales media or other media for public communication without the prior written consent of the signatories of this appraisal report.**

No one other than the undersigned prepared the analysis, conclusions, and opinions concerning real estate that are set forth in this appraisal report.

The real property which is the subject of this appraisal report was valued as of October 3, 1986

  
Gerald L. Curtis, MAI  
Real Estate Appraiser

CURTIS, SLOCOM & JORDAN, INC.  
REAL ESTATE CONSULTANTS & APPRAISERS

Gerald L. Curtis, MAI  
Patrick C. Jordan, MAI  
John E. Slocum, MAI  
Stephen T. Smith, MAI

Robert L. Hickok  
Anthony J. Morton  
Donald L. Singer

March 20, 1986

Mr. William Zavin  
5555 N. Channel Avenue  
Portland, Oregon 97217

Dear Mr. Zavin:

At your request, we have made an appraisal of a 14.37-acre site, building and equipment located upon that site. The site is located in the Swan Island Industrial Park at the southwest corner of N. Dolphin Street and N. Lagoon Avenue, Portland, Oregon. The site size described above is an estimate taken from the records of the Multnomah County Assessor's Office and is subject to a survey for verification.

The purpose of this appraisal is to estimate and report our opinion of the market value for the subject property as an operating entity. The subject is assumed to be developed to its highest and best use as dedicated. The opinion of the market value of the subject property is in terms of the price on which a willing and well-informed seller and a willing and well-informed buyer would agree, in the absence of any extraordinary compulsion on either's part, and after reasonable exposure of the property on the open market.

This report has been prepared in conformance with the Federal Home Loan Bank Board Memorandum R41b.

In order to make this appraisal, we have made a detailed inspection of the subject property and have observed land uses and trends of land uses in the immediate and general area, and have investigated sales in which comparable and competitive facilities were involved.

Subject to the aforementioned assumptions, we have estimated the fair market value of the subject property, as of March 20, 1986, is:

Land	\$ 2,012,000
Real Property Improvements	8,509,700
Personal Property Assets and Other Assets	6,481,230

**SEVENTEEN MILLION DOLLARS**

**\$17,000,000**

Mr. William Zavin

March 20, 1986

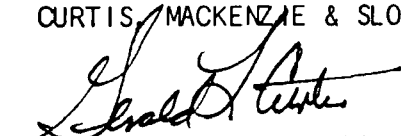
This report is subject to the Contingent Conditions, Limiting Conditions, and Special Assumptions and Certificate of Appraisal enclosed in the Addenda of this report. This report has been made in conformity with, and is subject to, the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers.

The AIREA requires each member to control the use and distribution of each signed report. Among other restrictions, it prohibits the distribution of only selected portions of the report, and it prohibits dissemination of all or part of a report to the general public by use of the public media or private promotional media, without the prior written consent of the signatories.

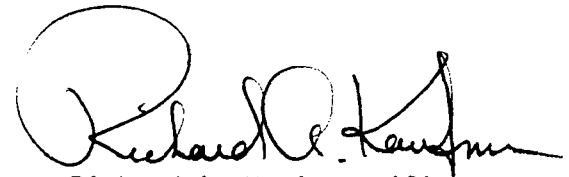
The undersigned has no personal interest, either present or contemplated, in the subject property, and certifies that no fee, received or to be received, or the employment of his services is in any way contingent upon the opinion reported herein.

Respectfully submitted,

CURTIS, MACKENZIE & SLOCOM, INC.

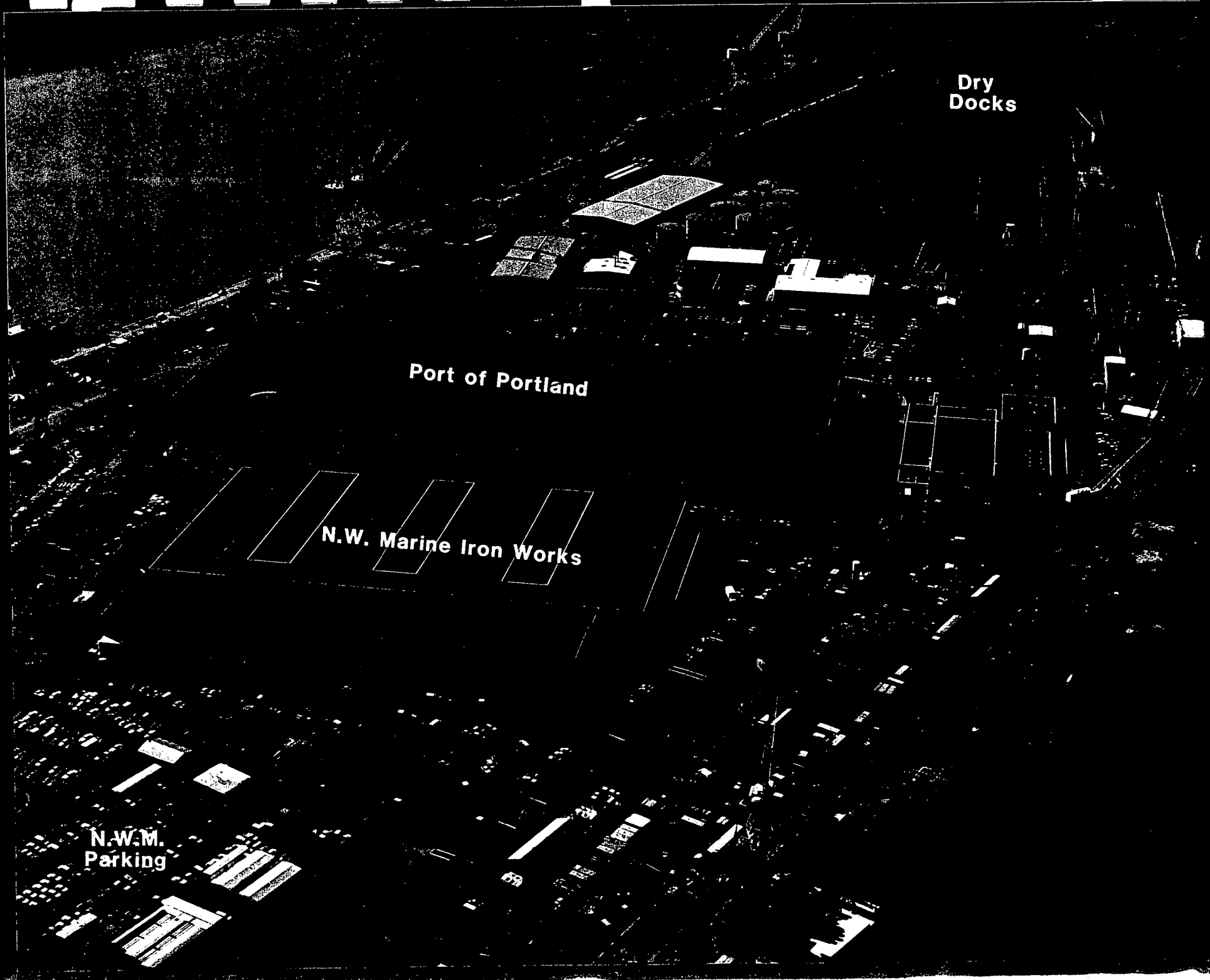


Gerald L. Curtis, MAI



Richard A. Kaufman, ASA

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**SUMMARY OF SALIENT FACTS**

Subject Property: 5555 N. Channel Avenue, Portland, Oregon.  
Northwest Marine Iron Works ship repair facility.

Legal Description: Tax Lots 73 and 89, Section 17, Range 1 North, Township 1 East, County of Multnomah, State of Oregon.

Purpose of the Appraisal: To estimate the value in exchange of the subject property, taking into consideration its highest and best use and its dedicated use.

Site: 14.37 acres zoned M-2 (General Manufacturing).

Improvements: 293,937 square foot, steel frame manufacturing facility divided into 12 bays with 14,800 square feet of offices. The structure was constructed in 1942, remodeled and added to in 1969, and extensively refurbished in 1983.

Assessed Value and Taxes:

Land	\$ 1,610,000
Improvements	3,842,330
Equipment	<u>2,051,650</u>
Total	\$ 7,503,980
Taxes:	\$ 192,701

Highest and Best Use: As developed.

Value by Cost Approach:

Land	\$ 2,012,000
Improvements	8,509,700
Machinery & Equipment	<u>6,481,230</u>
Total (R/O)	\$17,000,000

Value by Market Approach:

Continued Marine Repair (R.E. and M. & E.)	\$17,000,000
General Fabrication (R.E. and M. & E.)	\$14,060,000

Value Conclusion (Real Estate and Machinery and Equipment): \$17,000,000

Date of Valuation: March 20, 1986

Appraisers: Gerald L. Curtis, MAI  
Richard A. Kaufman, ASA

**PURPOSE OF APPRAISAL**

The purpose of this appraisal is to estimate the fair market value of the subject property. The definition of market value is:

"The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

"Fundamental assumptions and conditions presumed in this definition are:

1. Buyer and seller are motivated by self-interest.
2. Buyer and seller are well informed and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash, its equivalent, or in specified financing terms.
5. Specified financing, if any, may be the financing actually in place or on terms generally available for the property type in its locale on the effective appraisal date.
6. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report."

[AIREA, The Appraisal of Real Estate, Eighth Edition (Chicago, 1983), p. 33]

**FUNCTION OF APPRAISAL**

To assist the property owner with financing.

**PROPERTY RIGHTS APPRAISED**

The property rights appraised constitute the unencumbered fee simple interest of all future benefits that may be derived from the property's present or possible use.

**DATE OF APPRAISAL**

March 20, 1986

**LEGAL DESCRIPTION**

The legal description for the subject is as follows:

**Parcel 1**

The subject site has been divided into two separate tax lots by the Multnomah County Assessor's Office. The tax Lot Identification number for the first parcel is: Tax Lot 89 Section 17, Township 1 North Range 1 East. The metes and bounds description for this parcel is as follows:

A parcel of land in the S.W. 1/4 of Section 17, Township 1 North, Range 1 East, Willamette Meridian, Multnomah County, Oregon, described as follows:

Beginning at a point on the Southerly line of North Lagoon Avenue, said point being 399.98 feet North of and 2969.01 feet West of the S.E. corner of said Section 17; thence along the arc of a 38 foot radius curve, Southeasterly, a distance of 59.69 feet to a point; which bears S. 730' E., 53.74 feet from the last described point; thence S. 3730' W., 287.57 feet along the Westerly line of North Dolphin Street; thence N. 5230' W., 462.44 feet; thence N. 1532' E., 351.06 feet to a point on the Southerly line of North Lagoon Avenue; thence S. 5230' E., 555.76 feet along the Southerly line of North Lagoon Avenue to the point of beginning. Containing 3.9399 acres, more or less.

**Parcel 2**

The second parcel has been identified by the Multnomah County Assessor's Office as: Tax Lot 73 Section 17, Township 1 North Range 1 East.

The meets and bounds description for this parcel is as follows:

**Parcel 1**

A parcel of land situated in Section 17, Township 1 North, Range 1 East of the Willamette Meridian, in the City of Portland, County of Multnomah, State of Oregon, bounded and described as follows, to-wit:

Beginning at a point which is 265.89 feet North and 4641.89 feet West of the Southeast corner of said Section 17, which point is also the point of intersection of tangents of the centerline of a 90°48' curve in N. Channel Avenue; thence South 75°18'23" East a distance of 520.55 feet along the centerline of N. Channel Avenue; thence North 15°32'10" East a distance of 40.00 feet to a point on the northerly right-of-way line of N. Channel Avenue which point is the true point of beginning; thence North 15°32'10" East a distance of 934.86 feet; thence South 54°53'50" East a distance of 453.84 feet; thence South 52°30' East, along the southerly right-of-way line of N. Lagoon Avenue a distance of 103.00 feet; thence South 15°32' West a distance of 448.85 feet; thence North 74°28' West a distance of 1.50 feet; thence along a curve having a central angle of 40°08'20" and a radius of 410.87 feet a distance of 316.52 feet to a point on the northerly line of N. Channel Avenue, which point bears South 6°32'10" East a distance of 308.75 feet from the last described point; thence North 75°18'23" West a distance of 637.77 feet along the northerly right-of-way line of N. Channel Avenue to the true point of beginning.

Containing 10.035 acres, more or less, subject to a 15 foot wide sewer line easement heretofore granted to the City of Portland, described as follows:

Commencing at the point of Intersection of the Southwesterly extension of the centerline of N. Commerce Street with the centerline of N. Channel Avenue; thence North  $52^{\circ}30'$  West along the centerline of N. Channel Avenue a distance of 1268.49 feet to a point of curve along the said centerline; thence Northwesterly along a 394.71 foot radius curve to the left, consuming a central angle of  $22^{\circ}48'23''$  along the said centerline a distance of 157.11 feet to a point of tangent on said centerline; thence North  $75^{\circ}18'23''$  West along said centerline a distance of 219.08 feet; thence North  $15^{\circ}49'50''$  East a distance of 40 feet to the northeasterly line of N. Channel Avenue and the true point of beginning of the strip herein described, thence continuing North  $52^{\circ}30'$  West, 1911.42 feet from the Intersection of the southwesterly line of N. Lagoon Avenue with the centerline of N. Commerce Street, all in the City of Portland, County of Multnomah and State of Oregon.

**Parcel 3**

A parcel of land situated in Section 17, Township 1 North, Range 1 East, of the Willamette Meridian in the City of Portland, County of Multnomah, State of Oregon, bounded and described as follows, to-wit:

Beginning at a point 830.40 feet North and 3464.23 feet West of the Southeast corner of Section 17; thence South  $37^{\circ}30'$  West, 30.00 feet to the true point of beginning; thence continuing South  $37^{\circ}30'$ ; West, 22.19 feet; thence North  $54^{\circ}53'50''$  West, 453.84 feet along the North boundary of the property deeded to Schnitzer Realty Co. by warranty deed dated June 30, 1967, Book 569, page 49, Multnomah County Deed Records; thence North  $15^{\circ}32'10''$  East, 14.01 feet; thence along a curve right having a radius 788.51 feet, the chord of which bears South  $58^{\circ}16'06''$  East, a distance of 158.78 feet; thence South  $52^{\circ}30'$  East, 323.19 feet to the true point of beginning.

**TAXES AND ASSESSMENT**

The subject property has been identified by the Multnomah County Assessor's Office as Tax Lot 73 and 89, Section 17, Township 1 North, Range 1 East, County of Multnomah, State of Oregon. The proposed taxes for the 1986 tax year are as follows:

**Account No. 94117-0730****True Cash Value and Taxes**

Land	\$1,168,000.00
Taxes	29,994.24

**Sub-account No. 94117-0731**

Buildings and structures	\$3,800,000.00
Taxes	97,584.00

**Sub-account No. 94117-0732**

Machinery and Equipment	\$2,051,650.00
Taxes	52,686.38

**Account No. 94117-0890**

Land	\$ 442,000.00
Taxes	11,350.56

**Sub-account No. 94117-0891**

Buildings and structures	\$ 42,330.00
Taxes	1,087.04

The subject property has an estimated True Cash Value for land, improvements and selected equipment of \$7,503,980. The taxes are \$192,651.

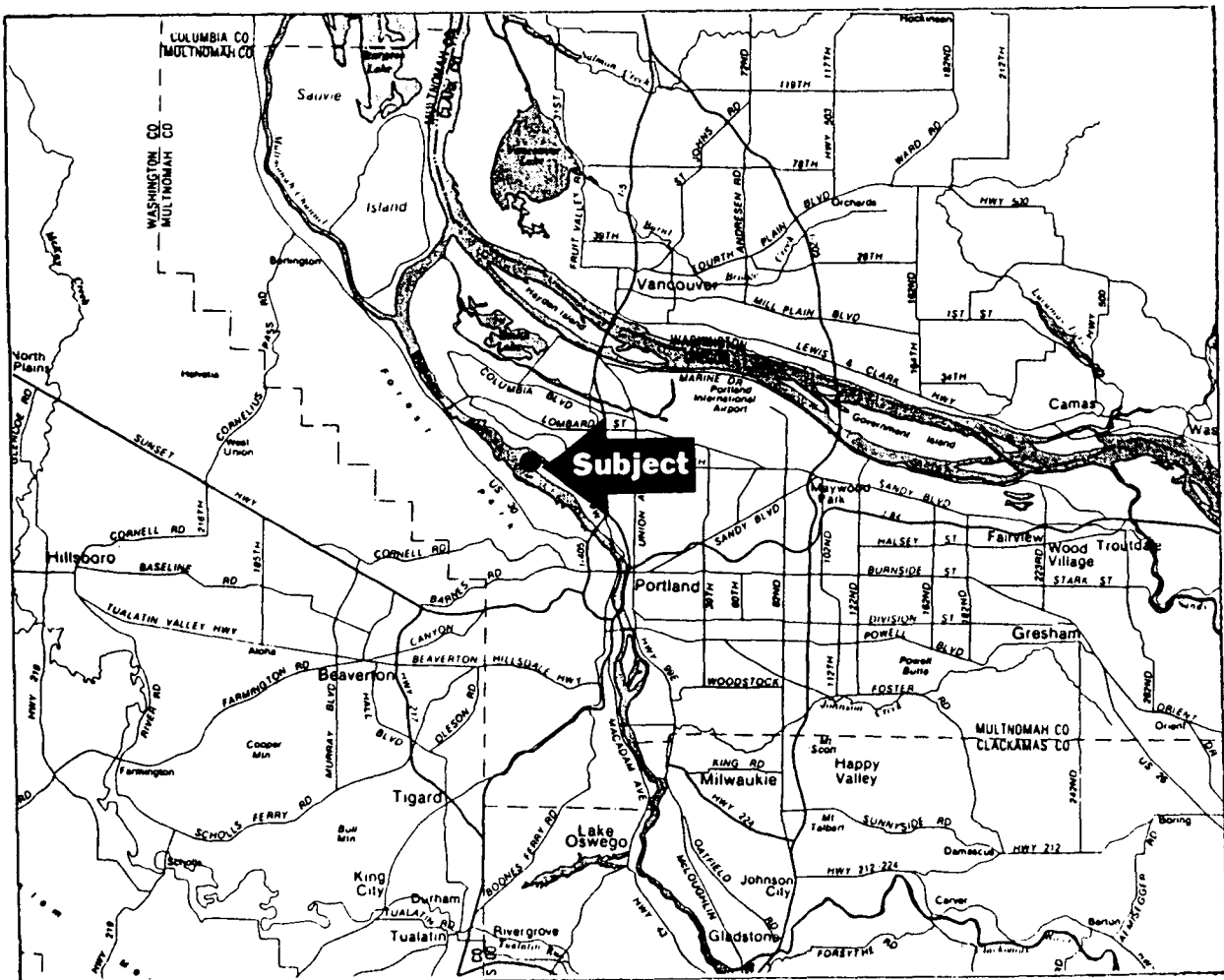
## REGIONAL DESCRIPTION

### Location

The area is generally situated in northwest Oregon and an adjacent portion of southwest Washington, in the Pacific Northwest region of the United States. It is more specifically located 100 miles inland from the Pacific Ocean, on the Willamette River near its confluence with the Columbia River. The Columbia River forms the boundary between the states of Oregon and Washington. Both the Columbia and Willamette Rivers are large enough to accommodate deep-draft ships. Mount Hood, located a few miles to the east, is an inactive volcano and the highest point in Oregon. The region is commonly known as the Portland metropolitan area.

### Political Boundaries

The Portland metropolitan area is composed of 39 cities and unincorporated areas located in four Oregon counties (Clackamas, Multnomah, Washington and Yamhill) and one Washington county (Clark). The largest cities in the area are Portland (370,730), Gresham (34,375) and Beaverton (33,050) in Oregon, and Vancouver (43,850) in Washington.



**REGIONAL DESCRIPTION (Continued)****Economic Base**

The metropolitan area has a large and diverse economic base. Its location and excellent transportation system have contributed to making it a leading wholesale trade and distribution center. Its location is centralized between the large metropolitan areas of Seattle to the north, San Francisco to the south and the many communities of the Interior Pacific Northwest. The major components of the transportation system include: Interstate 5 provides north-south access and Interstate 84 provides access to the east; several railroads furnish freight service; Portland International Airport supplies passenger and freight/package air service; large, modern port facilities and easy access to the Pacific Ocean via the Columbia River, and inland transportation by barge on the Columbia, make the area an attractive seaport.

Portland metropolitan area ranks as the 35th largest in manufacturing activity, with .57% of the total U.S. revenue for output of all manufacturing establishments with 20 or more employees. Among the area industries prominent in the U.S. marketplace are production of industrial trucks and tractors (4.15% of total U.S. output) and steel foundries (3.88%) in Multnomah County, hand saws and saw blades (12.48%) in Clackamas County, electricity-measuring instruments (9.30%) in Washington County, and primary aluminum (5.56%) in Clark County.

The area ranks 33rd in the U.S. for total retail sales, with \$7,789,731,000. This is projected to grow 56.4% to \$12,180,492,000 by 1989.

**Population**

The Portland metropolitan area had a population of 1,242,600 in 1980. By 1984 the population was estimated to be 1,348,800, which made it the 32nd most populous market area in the United States. The population is projected to grow 3.7% to 1,399,300 in 1989. The median age of the population is 31.5 years.

**Employment**

Employment was at an all time high of 620,000 in 1980 after a 4.4% annual increase since 1975. Employment declined to 584,900 in 1983, a -.88% annual decrease from the 1980 level. Total employment is estimated to be 612,800 in 1985, a 2.35% annual increase over 1983. The annual growth rate for employment is forecasted to be 2.31% through 1990, when total employment is expected to be 686,900. Employment growth will be focused in the Research and Development-based electronics (6.76% annually), transportation equipment (5.75% annually), and fabricated metals (3.87% annually) industries, and the service (2.42% annually) and trade (2.30% annually) sectors. Employment in agriculture declined (-1.19% annually) between 1970 and 1983. This negative trend is expected to continue. Agricultural employment was 10,400 in 1970 and projected to be only 7,900 by 1990.

# BUSINESS INDEX

## REAL ESTATE ROUNDUP

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March 1986

# **E C O N O M I C      R O U N D U P**

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## REGIONAL DESCRIPTION (Continued)

ELEVEN LARGEST PRIVATE EMPLOYERS  
IN THE PORTLAND METROPOLITAN AREA (1985)

Firm	Product	No. Employees
Tektronix	Electronic Equipment	13,891
Fred Meyer	Retail Variety Chain	5,200
Crown Zellerbach	Forest Products	4,300
Healthlink	Health Care	4,275
Kaiser-Permanente	Health Maintenance Organization	4,069
U.S. Bancorp	Bank and Holding Co.	3,878
Pacific Northwest Bell	Telecommunications	3,657
Intel	Processing Manufacturer	3,250
Portland General Electric	Electric Utility	3,123
First Interstate Bank	Bank	3,081
N.W. Marine Iron Works	Ship Yard	1,200

(Source: The Business Journal)

**Income**

The total disposable income (personal income less personal tax and non-tax payments) was estimated to be \$15.2 billion in 1984, and forecasted to expand 76.9% to \$26.8 billion in 1989. The average household disposable income was estimated to be \$29,110 in 1984 and projected to be \$49,099 in 1989. This compares to the estimated average disposable income for the entire U.S. of \$29,640 in 1984 and \$45,959 in 1989.

**Tax Structure**

The State of Oregon has an income tax which ranges from 4% to 10% of taxable personal income. This is the third highest rate in the nation. The principal local tax is an ad valorem property tax which ranges from 1.5% to 2.5% of market value, the eighth highest rate in the nation. Oregon has no sales tax. Total taxes in Oregon rank as tenth highest in the U.S.

**Summary**

The large and diverse economy of the Portland metropolitan area should provide a stable, growing environment that will continue to attract new business and industry. The growth is controlled by responsible local and regional government, and there seems to be some success at maintaining and improving the area's "quality of life." Population, employment and income are all forecasted to remain as healthy as the U.S. economy through 1990 and beyond.

## NEIGHBORHOOD DESCRIPTION

The subject property is located in the Swan Island Industrial Park, which is approximately four miles north of the central business district and within the city limits of Portland. Swan Island Industrial Park contains 565 gross acres. The overall industrial park consists of 260 acres on Swan Island and the balance on the mainland. Some sites are available with water frontage.

Swan Island is now a peninsula, but in the 1800s it was actually an island in the Willamette River. The main channel now lies west of the island but in the late 1800s was on its east side. In 1921 Swan Island was acquired by the Port of Portland in order to change the main channel from the east side of the island to the west side. The new channel was dredged and the soil used to connect Swan Island to the east shore, creating a peninsula. During the 1920s, the first airport in the area was placed upon the peninsula, and was used for commercial aviation until 1935. The Federal government advised the Port at that time that there were flaws in the design of the airport and suggested that a new airport be constructed.

During World War II, Swan Island was turned over to the Kaiser Shipbuilding Interests, and shipyards were constructed on the island. In 1948, the Port of Portland purchased the shipbuilding facilities from Kaiser, and began development of the industrial park. The majority of the present improvements in the park were constructed in the 1960s. In 1979 a major expansion of the ship repair yard was completed, including the largest floating dry dock facility on the west coast, and 8,200 feet of ship repair and idle ship berths. This facility is different than any other facility on the west coast in that the public owns and operates the shipyard and leases its use to private ship repair contractors. This helps to make Portland a highly competitive ship repair center. The subject property is a privately owned facility located within the publicly owned ship repair facility, although it does have frontage outside the facility on city streets. Sites in the area are zoned M-2. In addition to most types of manufacturing, these zones permit warehousing, distribution and terminal operations. Development and performance standards pertaining to landscaping, setbacks, architecture, parking design, air quality and other factors have been designated to allow a successful integration of industries into the environment.

## Zoning

Sites are zoned M-2, which is designated as a general manufacturing zone. In addition to most types of manufacturing, this zone permits warehousing, distribution and terminal operations. Development and performance standards pertaining to landscaping, setbacks, architecture, parking design, air quality, and other factors, have been designated to allow a successful integration of industries into the environment. Controls are not intended to inhibit growth, and the goal is to preserve the environment assets that make Swan Island a long range protected investment for tenants.

**NEIGHBORHOOD DESCRIPTION (Continued)****Transportation - Rail**

A Union Pacific line runs through the Industrial park, which is adjacent to the Union Pacific Albina Yard and Terminal, a major intermodal station for the Pacific Northwest. Connecting services are furnished within Portland to the Burlington Northern and Southern Pacific Railroads through reciprocal switching arrangements. Each of the above companies has major marshalling yards in the immediate area, and with the reciprocal switching agreements between the railroads there are no switching charges to users for line haul movements.

**Highways**

Direct access to Metropolitan Portland's freeway network is provided from the Mock's Landing and Swan Island Industrial Parks to the north/south Interstate 5 Freeway, less than two miles east of the subject site. I-5 connects to the main east/west Interstate 84 within five minutes driving time from the park. The area is served by 100 truck lines, with the major terminals of a number of these located within the Swan Island Industrial Park.

**Water Transportation**

Swan Island Industrial Park is located within the central Portland harbor. Portland is an international seaport with more than 12 million tons of cargo passed across its docks during 1980. It is the largest export tonnage port on the west coast, and the third largest in total import/export tonnage. Approximately 1,400 ships load and discharge cargo at Port docks each year, and more than 20 regular schedule steamship lines serve the city. There is a channel from the Pacific Ocean up the Columbia River to Portland with a depth of 40' and a width of 600', allowing most oceangoing ships access. In addition, barge service is available on the Columbia River all the way to Lewiston, Idaho approximately 340 miles inland.

**Utilities**

The city of Portland serves all of Swan Island. The size of the water main to the Island is a 12 to 16 inch line, and sewer is provided by a 10 to 24 inch line. Natural gas services to the Island and is provided by Northwest Natural Gas Company. Telephone service is provided by Pacific Northwest Bell and Portland General Electric serves the Industrial park.

**Tenants**

Some of the tenants within the Swan Island Industrial Park include Lynden Farms, Sealand Services, Inc., Pacific Supply Corp., Transwestern Express, Oregon-Nevada-California, Inc., Freightliner Corporation's corporate headquarters, Mald Operations Centers, Sears & Roebuck Company, United Parcel Service, Temp-Control Corporation, U.S. Navy and Marine Corp. Reserve Center, Cummins Diesel and Northwest Marine Iron Works.

NEIGHBORHOOD DESCRIPTION (Continued)

Conclusion

The entire industrial park has been underwritten by the Port of Portland, which gives a substantial benefit to the area financially. Street lighting, road systems, and all forms of development within the park are considered to be first class. With the strict design and landscape requirements, as well as tenant control, the development within the park is considered to be one of the best in the general metropolitan area. Also, there is a history of corporate headquarter facilities in this district similar to the subject, such as Freightliner, H.A. Anderson Co., and Northwest Marine Iron Works.

Further development is expected to occur with the new addition of the Mock's Bottom expansion of the Swan Island development area. This area is expected to mirror the development that has taken place within the Swan Island Industrial Park.

NEIGHBORHOOD DESCRIPTION (Continued)



ENTRY TO THE SWAN ISLAND INDUSTRIAL PARK



ENTRY ROAD (N. LAGOON) TO THE SUBJECT PROPERTY

NEIGHBORHOOD DESCRIPTION (Continued)



SECURITY ENTRY TO THE PORT OF PORTLAND'S SHIP YARD AND N.W. MARINE IRON WORKS



PATENT SCAFFOLD PROPERTY, ADJACENT TO THE SUBJECT

NEIGHBORHOOD DESCRIPTION (Continued)



PETERBILT TRUCK PARTS DISTRIBUTION CENTER (SOUTH OF THE SUBJECT)



PORT'S TERMINAL FACILITY, ADJACENT TO THE SUBJECT ON THE NORTH



**SITE DESCRIPTION**

**Size:** The subject site contains a total of 14.37 acres.

**Shape:** The subject is L-shaped.

**Accessibility:** The site has 1,138 feet of frontage on N. Lagoon Avenue, 287' of frontage on N. Dolphin Street and 638' of frontage on N. Channel Avenue. There are curb cuts on all three of these streets.

**Abutting Properties:** In the center of the "L" is a property not owned by Northwest Marine Iron Works located on the corner of N. Dolphin Street and N. Channel Avenue. North and west of, and adjacent to, the subject property is the Swan Island Ship Repair Yard of the Port of Portland. They occupy the entire northwest and southwest end of the island. East of, and across N. Dolphin Street, is Diesel Service Unit Co. and Jacob Hamburger Co. To the north and south of the subject property is vacant land which is owned by the Port of Portland. The land south of, and across N. Channel Avenue, is under development by the Port of Portland. This is the southeast end of the new dry dock facility planned by the Port of Portland.

**Street Improvements:** N. Lagoon Avenue varies in width from 60' to 80' in front of the subject property and inside the Port-fenced area. This street is paved, has concrete curbs, storm drains and adequate street lighting. N. Dolphin street is a feeder street into N. Channel Avenue and N. Lagoon Avenue. This street is 60' in width and has a macadam cover. The street is supported by concrete curbs and street lighting. N. Channel Avenue is 80' in width and has a macadam cover. It also has concrete curbing and street lighting. The Port controlled gatehouse is at the west end of the subject parcel.

**Utilities:** Rail service is provided by the Union Pacific Railroad. Connection services furnish within Portland to the Burlington Northern and Southern Pacific. This is a free switching area for all the mainline haul movements.

The area is served by Portland General Electric by underground lines. The subject site is served by two transformer stations with a 200 KVA-12,000/480 volt General Electric single phase oil-filled type H, form KD transformer.

**SITE DESCRIPTION (Continued)**

The electrical system within the building appears to be adequate for the needs of the overhead cranes and general use throughout the facility.

Other utilities to the site include natural gas, which is supplied by N.W. Natural Gas Company, water from the City of Portland and sewage disposal through 10 to 24 inch lines.

As mentioned previously, during World War II Swan Island developed as a ship building facility. The T-2 Tanker was built. The cranes, piers, shipways and numerous other support facilities were put in place at that time. Two dry docks were in already place, and the Navy added an 18,000-ton dry dock during the war. An additional dry dock was added in 1963, and at 660' long with 112' clear width, it became the largest floating dry dock on the west coast. With the passage of time, Dry Dock No. 3 became outmoded, primarily because of the need to repair larger ships.

**Zoning:**

All portions of the industrial park are within the city of Portland and the M-2, general manufacturing zone. See the following Zoning section for additional information.

**Summary:**

The subject site is level with street grade and has good utility for its current operation. The site has all the basic amenities desirable for industrial development. The development around the site is homogeneous to its current use and tends to reinforce the general industrial climate of the neighborhood. Generally speaking, the subject site is within one of the most desirable industrial parks in the city of Portland and in a key location for most of the expanding demands of the Port of Portland.

SITE DESCRIPTION (Continued)

ZONING

Development Standards for Swan Island Industrial Park

I. Buildings

A. Design

All buildings shall be designed by an architect or engineer registered in the State of Oregon.

B. Setbacks

1. Front Yard

No buildings will be constructed within 50' of the front property line.

2. Side and Rear Yards

The side yard setback shall be a minimum of 10'.  
The rear yard setback shall be a minimum of 10'.

3. Setback Reduction

The front yard setback may be reduced to a minimum of 25', provided that the portion of the building closer than the 50' line shall make a positive contribution to the overall design. The Port will be the sole judge of such design but will, in general, consider office structures, outdoor court areas, and other particularly attractive portions of the main structure as eligible for the modified setback.

4. Railroads

(a) The front yard setback lying between that portion of the building served by a railroad and the property line adjacent to a railroad lead track may be reduced to 27'.

(b) When a railroad right of way is adjacent to the rear property line, the building or any part thereof shall be no closer than 14.5' from the nearest right of way line. The 14.5' strip is to be permanently reserved as a continuous easement along the railroad right of way for use by any company requiring railroad spur service.

(c) The front, rear and side yard setbacks shall be increased when it is necessary to allow space for more than one railroad spur.

SITE DESCRIPTION (Continued)

5. Corner Lots

If the subject property is a corner lot, the Port will designate which is the front property line and which is the side property line.

C. Heights and Lot Coverage

The maximum height of any structure shall be 45'. Building height or any portion thereof within the 50' setback are shall not exceed 20'.

Exceptions to the above height restrictions such as utility structures, tower, etc., will be reviewed by the Port on an individual basis.

The maximum area that may be covered by the principal building, accessory buildings and future additions to either shall not exceed sixty (60) percent of the total area of the lot.

D. Building Materials

Materials shall be appropriate for the use and for the type of structure in which they are used. Tenants are encouraged to use materials indigenous to the local area. Materials that may be used are concrete, architectural metals, exposed aggregate concrete, glass, brick, natural stone, concrete block and wood. All buildings shall be of permanent-type construction. The type, style and color of all exterior wall material shall be submitted to the Port for approval. Trailers, mobile office, and other temporary structures will not be allowed except for use during construction.

E. Roof

The roof area must be fire resistant for a minimum of two hours.

F. Roof Utilities

The Port of Portland will approve the color on all exposed utilities, towers, conveyors, and exposed processing equipment. All roof utilities shall be architecturally screened.

G. Site Layout

Placement of structures on sites shall be carried out in such a manner as to maximize the potential of the individual sites. Provisions shall be made for circulation within the site and the access of emergency vehicles.

SITE DESCRIPTION (Continued)

II. Parking

A. Setbacks

1. Front Yard

There shall be no parking facility closer than 10' to the front property line.

2. Side Yard

No parking facilities shall be closer than 5' to the side property lines.

B. On-Street Parking

No on-site parking will be permitted.

C. Parking Space Requirements

One parking space will be provided for each three employees on the major and next largest shift or two spaces for each three employees on the major shift, whichever is larger. This requirement can be submitted to the Port for review if other modes of transportation are made available to the employees.

D. Parking Lot Layout

The design and layout of all parking lots shall conform with the requirements of the appropriate local ordinances. The basic requirements for layout of a parking lot shall be as follows:

1. Size

(a) Minimum size of lot will be 1,000 square feet.

(b) Maximum size - Large parking areas shall be divided into section containing not more than 60 parking spaces each and divided by 5' landscaped divider strips.

2. Aisle width shall be no less than 25' for 90 degree parking, 20' for 60 degree and 45 degree parking, and 12' for parallel parking.

3. Minimum size for individual parking spaces will be 8.5 by 20' for employees parking in industrial areas, 9.5 by 20' for visitor parking, and 9.5 by 23' for parallel parking. All spaces will have a minimum of 6' 6" of vertical clearance.

SITE DESCRIPTION (Continued)

E. Screening

A 6' high screen shall be maintained to screen all parking from the front property line. Adequate screening shall be interpreted as either natural or architectural material which obscures the line of sight from the street. The parking screening requirement may be combined with the regular setback landscaping requirements. The adequacy of the screening will be determined by the Port.

F. Surfacing

All parking areas shall be paved with a dust-free all weather surface, such as asphaltic paving, be graded and drained to provide for the disposal of all surface water on the site, and of a strength adequate for the traffic expected. All parking stalls and direction of traffic shall be clearly marked on the paved surface.

III. Utilities

A. Location

All utilities shall be brought into the site and to the buildings underground. Pad-mounted electrical transformers shall be located and screened so as to prevent viewing from any public street. Permits shall be obtained for all utilities crossing Port property.

IV. Access

A. Rail Spurs

1. Engineering Specifications

All rail access shall be constructed according to proper engineering specifications and subject to Port approval. A standard No. 9 turnabout and a maximum curvature of 16 degrees is recommended for all spur tracts.

V. Landscape

A. The following landscape requirements are intended for the enhancement of individual tenants sites at the Port's Swan Island Industrial Park to ensure an attractive setting and increased land value.

All landscape drawings submitted for approval by the Port shall be stamped by a landscape drawings submitted for approval by the Port shall be stamped by a landscape architect registered in the State of Oregon. The design of all landscape will be evaluated by the Port for its compatibility with surrounding design, compatibility to the local environment and extent to which it satisfied screening

## SITE DESCRIPTION (Continued)

requirements.

## B. Front Setbacks

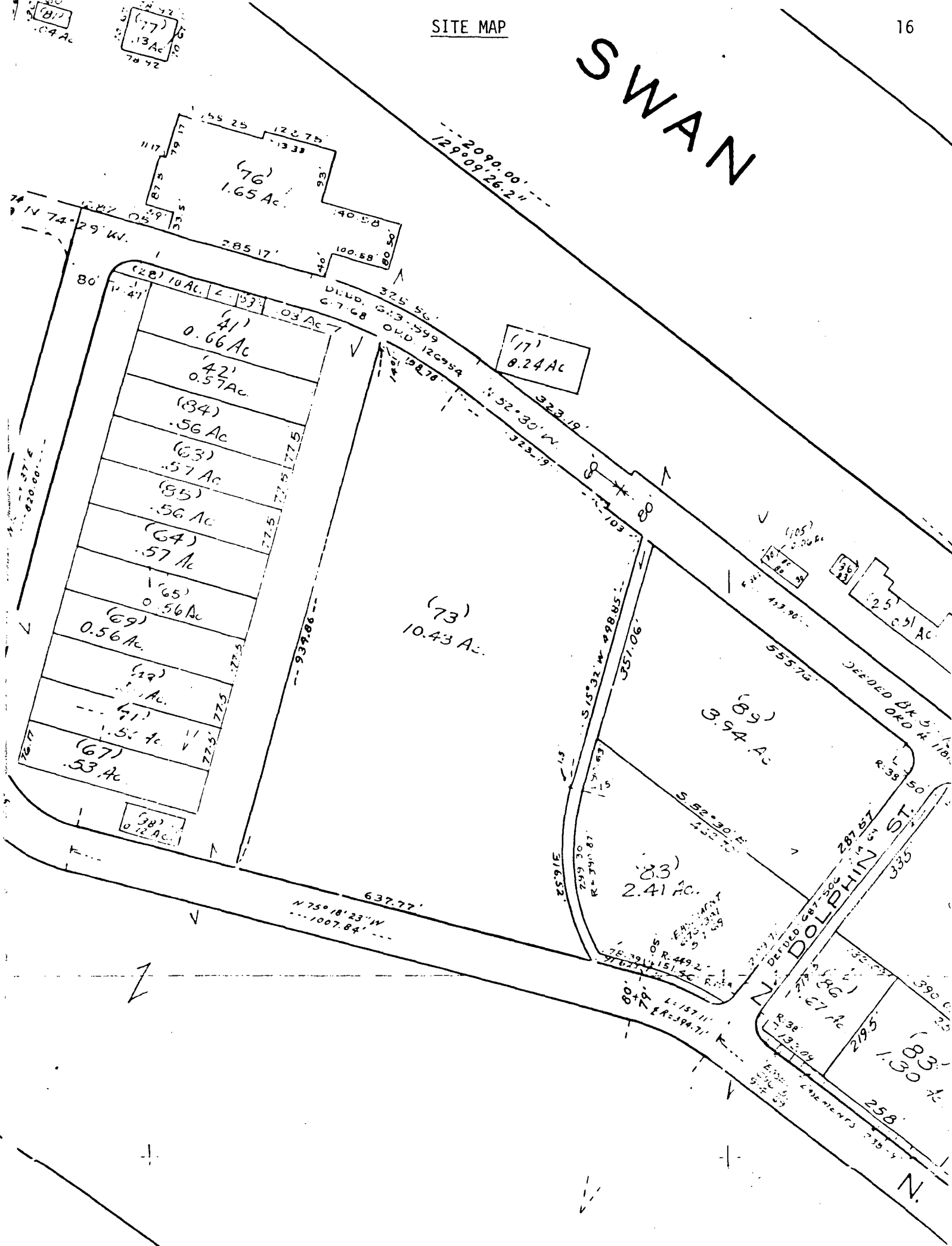
1. The minimum landscaping shall be an area equal to that of 50% of the standard 50' setback area.
2. No less than a 10' landscaped strip shall be installed along all street property lines exclusive of driveways, walks and railroad rights of way.
3. One 100% landscaping shall be provided in front of those portions of the building which have been permitted to extend closer to the property line than 50'.
4. The landscaping in this area shall be designed to enhance the architectural design of the building and to screen the parking, storage and loading area. On-site landscaping should be designed to be compatible with the street landscape program.

## VI. Area Lighting

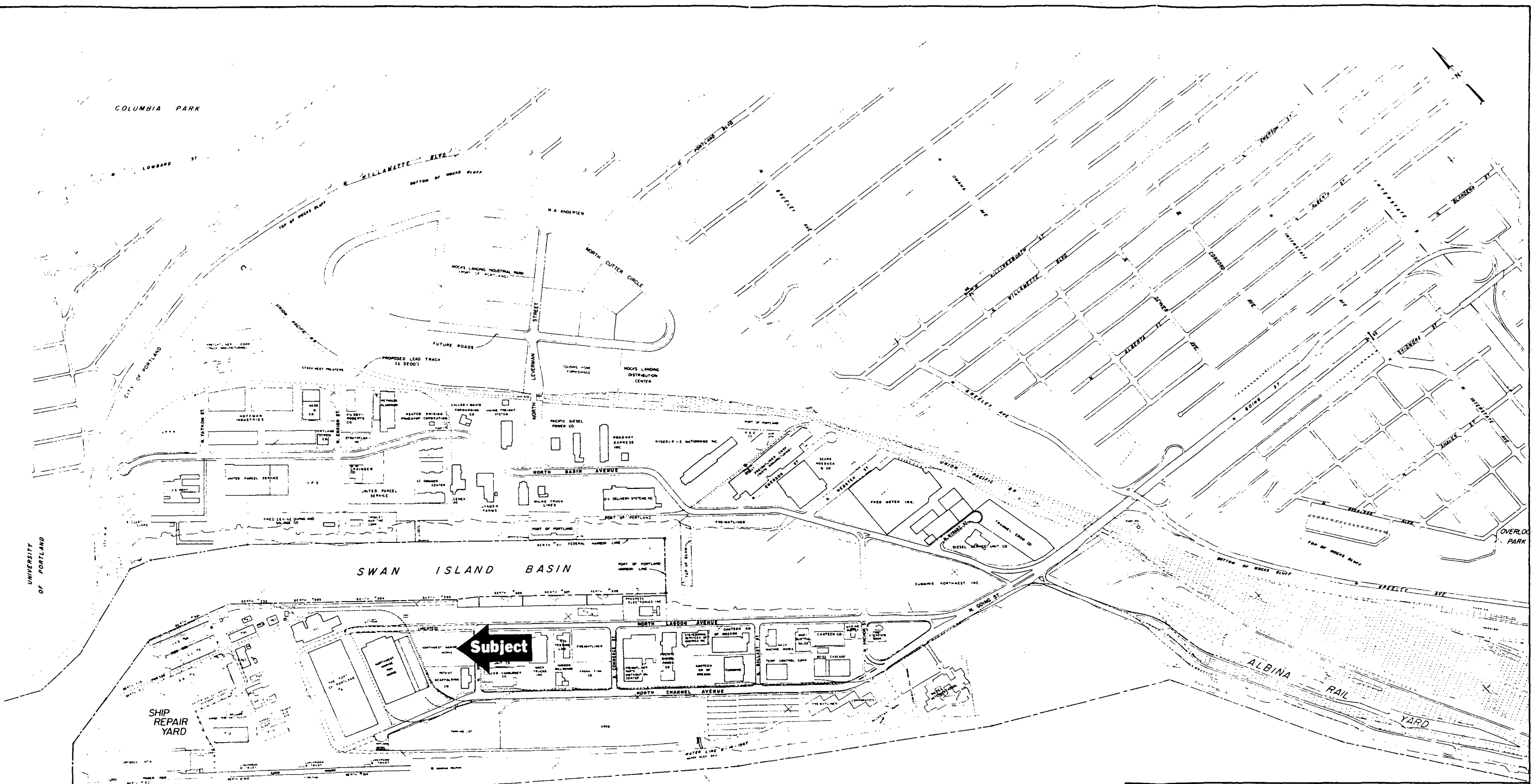
The objective of area lighting is to light landscaped areas, freestanding signs, buildings, parking areas or storage areas for decorative or security reasons. The light must not dominate the buildings or landscape but blend as an integral part of the total development. All lighting shall be shielded from adjoining properties when it would create an annoyance. The minimum average illumination levels shall be:

Parking areas	1.0 footcandle
Vehicle exits & entrances	2.0 footcandle
Walkways	0.5 footcandle
Storage areas	1.0 footcandle

SWAN







MOCKS LANDING INDUSTRIAL PARK  
AND  
SWAN ISLAND INDUSTRIAL PARK

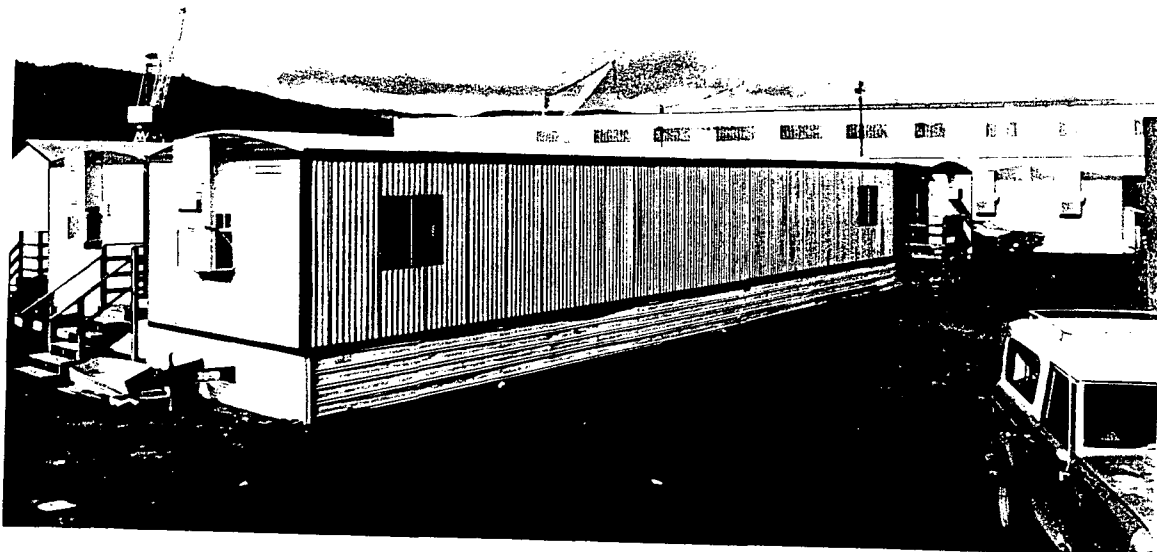
SCALE IN FEET  
800' 0' 800' 1600'  
244M 0M 244M 488M  
SCALE IN METERS

SI 85-1

SITE DESCRIPTION (Continued)



SOUTH PARKING LOT



TEMPORARY NAVY HOUSING ADJACENT TO THE NORTH PARKING LOT

SITE DESCRIPTION (Continued)



GUEST PARKING AT THE ENTRY (EAST SIDE) OF N.W. MARINE IRON WORKS



YARD STORAGE AREA TO THE WEST OF THE MAIN FACILITY

DESCRIPTION OF IMPROVEMENTS

The subject property consists of a site containing 14.37 acres, a building containing 293,978 square feet and various yard improvements. The description of the building is as follows:

- Size:** The main building contains 170,573 square feet. The western extension of the craneway into a covered loading area contains an additional 34,500 square feet. To the east of the building, a new bay was created at the same time the new bay was constructed and contains 74,025 square feet. The office is two-stories in height and contains a gross area of 14,880 square feet. The total square foot area for the building is 293,978 square feet.
- Age:** The building was originally constructed in 1943. Major modifications took place in 1969 and 1983.
- Wall Height:** Within the shop area the walls range from 41' to 50'. The shed area adjacent to the new addition has a maximum wall height of 22'. The wall height within the office is 8'.
- Foundation:** The corner footings are 6' x 6' x 2' and are a concrete material. Sidewall footings are 4' x 2' and are concrete. The interior footings vary from 8' x 8' x 2' to 1' 6" x 2'. These interior footings vary due to load capacity. Footings under the office building are 4' 6" x 4' 6" x 1'. Foundation walls around the perimeter of the building.
- Exterior Walls:** The basic wall construction is frame with 2" x 6" studs, spaced either 16" to 3' on center. Cover over the walls is enameled galvanized steel siding. Additional light is allowed through corrugated fiberglass panels placed in the walls. The office building is finished with enameled galvanized siding, but differs from the main plant in that it has insulated walls and is finished with wall board on the interior.
- Floor:** The floor varies from 6" reinforced concrete to 3" blacktop paving. 173,363 square feet has meshed concrete that is 6" thick. Approximately 120,000 square feet has 3" thick blacktop paving. The main floor in the office has a mixture of vinyl sheet goods and wall-to-wall carpet for floor cover. Under the carpet and vinyl sheet goods is 3/4" plywood sheathing over 1 1/2" insulation board, 2" x 12" joists 16" on

**DESCRIPTION OF IMPROVEMENTS (Continued)**

center, 6" x 12" beams 4' on center. The second floor has 3/4" plywood over 2" x 8" floor joists 16" on center.

**Partition Framing:**

The bulk of the partition framing is in the office area. Partition framing is 2" x 6" studs nailed 16" on center, with 1/2" gypsum board on each side. A small portion of the interior framing of the office has 2" x 4" studs also nailed 16" on center, but has 5/8" gypsum board on each side. The majority of the interior partitions in the office area has been painted. A partition wall separates Bay 1 from the remainder of the buildings. This wall is frame construction and runs from floor to ceiling. Bays 2 through 11 have a variety of interior offices, tool cribs, personnel control screens, lunchrooms and restrooms.

**Roofing:**

The basic roof design is monitor, with a built-up composition cover. The interior is wood and steel trusses built on 50' bays. The roof support system varies from H-beams to A-frame support. The H-beams and A-frames supports double as craneway supports.

**Gutters & Downspouts:**

Roof drainage is provided through 6" galvanized steel gutters which drain through downspouts into a subsurface system.

**Interior Finish:**

On the north side of the building is the office area for this facility. These offices range from general bullpen arrangements to private offices and conference rooms. The general office area is finished with sheetrock walls and paint. The conference room and executive offices have paneled walls and wall-to-wall carpeting. Special features within the offices include a floating floor for the computer room.

**Windows:**

As stated previously, the roof design is monitor. The facing of the monitor has glass panels to allow light in the upper story area of the building. The perimeter of the building has plexi-glass panels over the openings. In the office areas are aluminum framed sliding glass windows. There is adequate lighting and ventilation into the building.

**Plumbing:**

The majority of plumbing is located in the office area. The women's restroom on the main floor consists of three toilets and three lavatories. The men's restroom has three toilets, two urinals, one cast iron service sink

**DESCRIPTION OF IMPROVEMENTS (Continued)**

and two lavatories. The second floor has a men's and women's restroom with approximately the same plumbing count as on the main floor. The main building has adequate restrooms to service the needs of the employees. The plumbing is located in such a manner within the building that it allows easy access to the restrooms. Additional restrooms are at the south wall of the factory.

**Sprinklering System:**

The sprinklering system is a dry system and is adequate for the occupancy. The supply is through seven 6" dry pipe valves and five 8" dry pipe valves. Water is fed through five 7" flanged gate valves.

**Heating:**

Heat for the office is provided by a gas-fired water heating boiler. The rating of the boiler is 840,000 BTU output, with gas burner, automatic controls and piping. Four circulating pumps with four zones, switch, wiring, and piping to perimeter mounted steam heating units heat the offices throughout.

Interior factory offices are heated, and part of the main building is heated by five zonal overhead electric heating units.

**Air Conditioning:**

The office has the bulk of the air conditioning. The unit in the office has 50 ton capacity and is a freon refrigerated unit. The only other air conditioning within the building are two wall-mounted units in the foreman's office.

**Railroad Track:**

A railroad spur runs into the east and west sides of the building. The total trackage measures 1,375 lineal feet within the building. The track is 90 pound and is set in blacktop with fasteners and ties. This track is mounted within the building to allow service of railroad cars.

**Craneways:**

Bays 1 through 11 have the capacity of at least 10 tons to the crane. Cranes in place vary from 5 to 10 tons, depending upon location. Bay No. 12 has 10 and 20 ton capacity and has stiffeners in the floor to make this capacity available.

The listing of the serviceable cranes and craneways was taken from information provided by the client. The exact capacity of each crane and craneway is assumed to be accurate. Cranes in Bays 2 through 11 are interchangeable.

**DESCRIPTION OF IMPROVEMENTS (Continued)**

**Electrical:**

The power to this facility is provided through two transformers located within the building. 2-50 KVA transformers at capacity produce 440 volt. Lighting in the main building is provided through mercury vapor lamps. Lighting in the office area is provided by ceiling mounted fluorescent lights.

**Functional Utility  
(Building):**

The building is divided into eleven 50' bays and one 85' wide bay. The 50' bays are approximately 400' in length and the 85' bay is 525' in depth. The craneways extend to the west of the main building into a covered railroad car and truck loading area. This allows easy handling of products within the building. Discussions with a number of people who are involved in buildings similar to the subject indicate that this form of setup is ideal for the handling of steel products.

**Yard Improvements:**

The yard improvements consist of approximately 207,000 square feet of blacktop paving. The paving is approximately 3 inches thick. There are 560 lineal feet of concrete curbing and planters around the parking area. The perimeter of the property is curtailed by 2,130 lineal feet of 8' high cedar slat-filled chain link fence. Entry gates allow access in and out of the site to Dolphin and Channel Streets.

In the yard area is 1,440 lineal feet of railroad track. These tracks are mounted on treated ties set in blacktop paving.

Around the perimeter of the property is a sprinklering system to accommodate the landscaping.

The overall condition of the yard improvements, landscaping and general maintenance of the grounds appear to be excellent.



SOUTH SIDE OF FACILITY



WEST SIDE WALL



DESCRIPTION OF IMPROVEMENTS (Continued)



COVERED RECEIVING AREA ON THE NORTH SIDE OF THE BUILDING

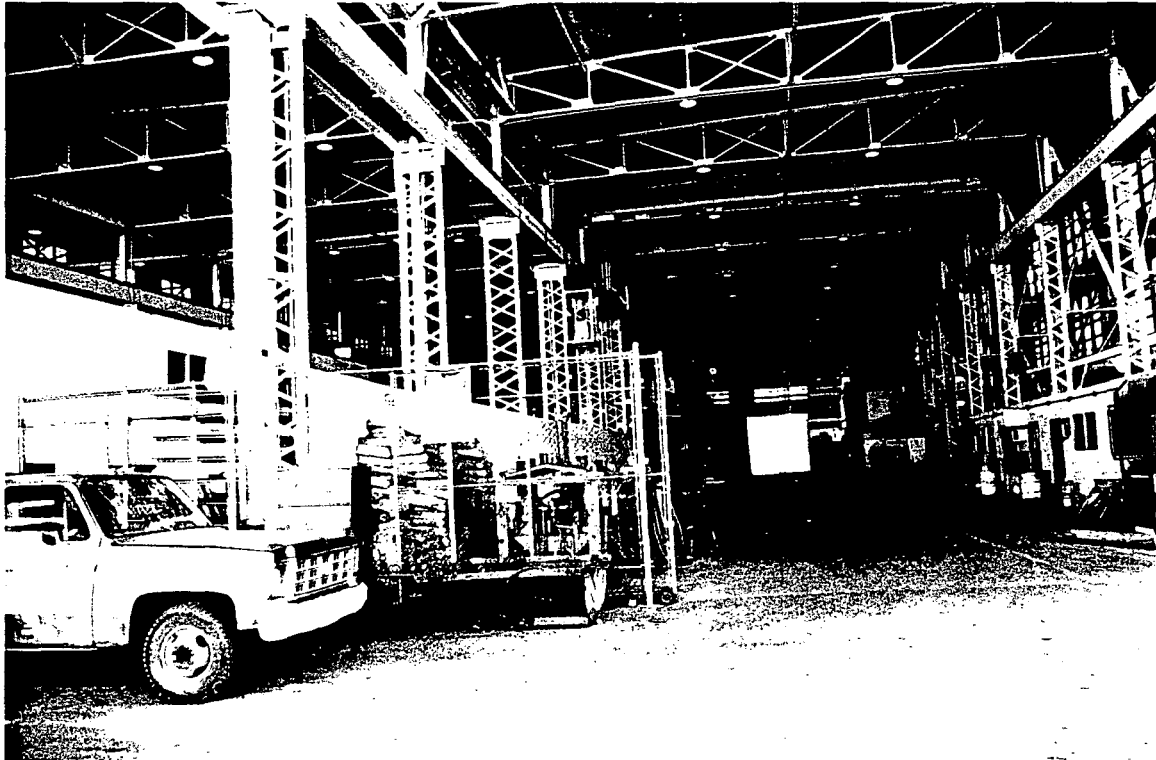


BAY NO. 12 - ADDED IN 1969, WITH 85' WIDTH

DESCRIPTION OF IMPROVEMENTS (Continued)

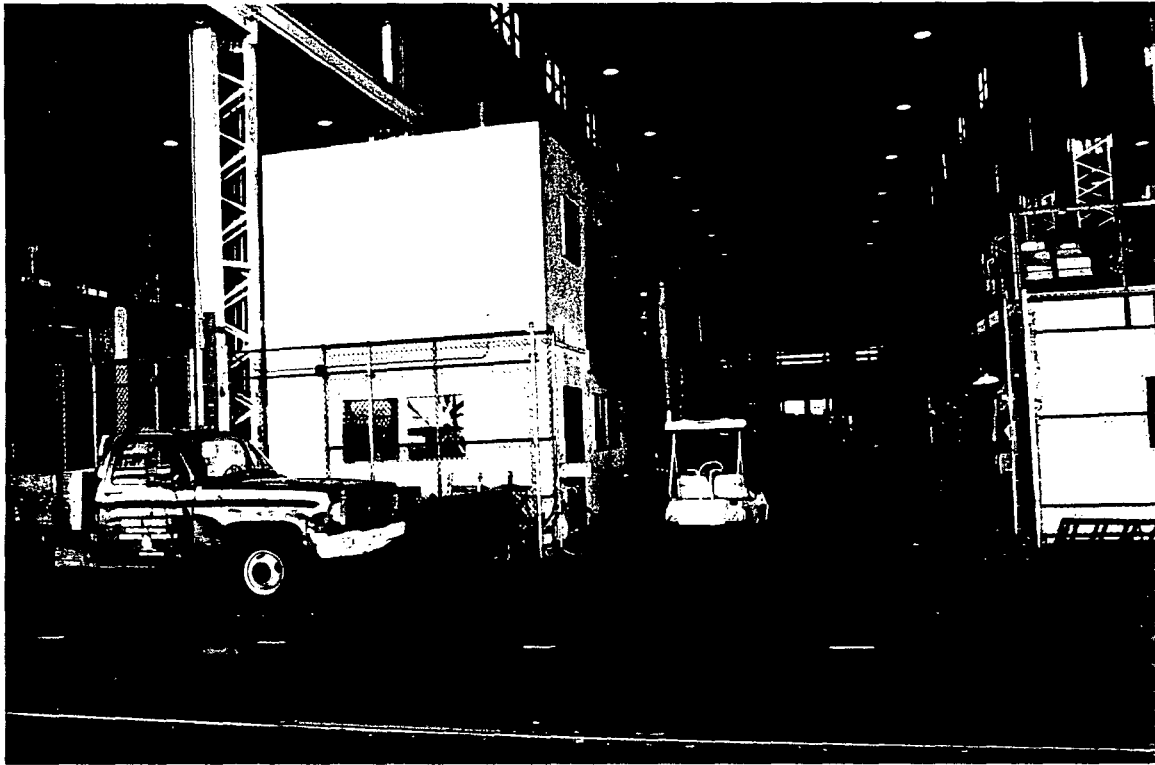


WEST END OF RECEIVING AREA



BAY NO. 11 - 50' WIDE

DESCRIPTION OF IMPROVEMENTS (Continued)



BAY NO. 9 - 50' WIDE - TYPICAL FOR THIS FACILITY

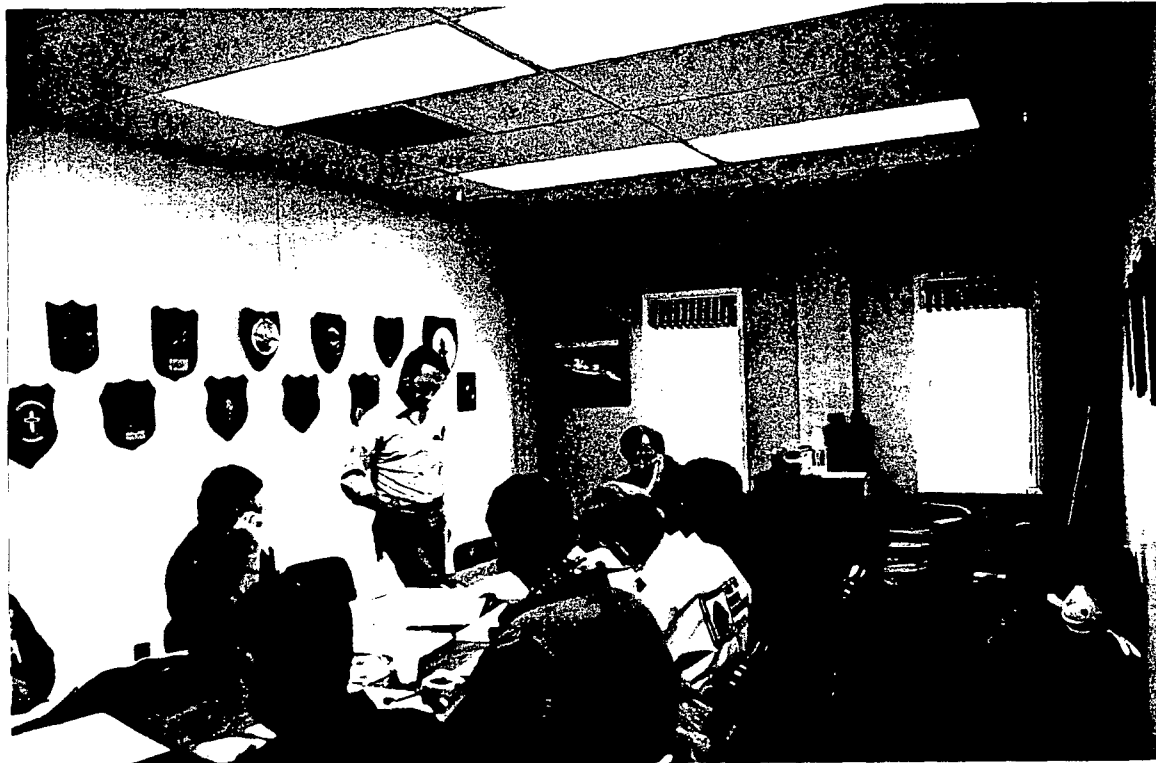


TYPICAL OFFICE FINISH - 2ND FLOOR ADMINISTRATION

DESCRIPTION OF IMPROVEMENTS (Continued)



OFFICE AREA - INTERIOR HALLWAY (TYPICAL)



CONFERENCE ROOM

DESCRIPTION OF IMPROVEMENTS (Continued)



OFFICE PRODUCTION AREA (FIRST FLOOR)



PURCHASING AREA (FIRST AREA)

NORTH CHANNEL AVE.

12" DEAD END CITY MAIN

N 15° 18' 23" W 637.77'

EXISTING TRANSFORMER

5015'

END OF BAIST BUILDING

NEW WALK

15' SEWER EASEMENT

300.75'

N 15° 32' 10" E 934.80'

EXIST. AD. 30' BAYS TO REMAIN UNCOVERED. THIS AREA

FC - 2 TYP. BAY

575' x 30' - 172,342' EXISTING COVERED

43' OF EXISTING OPEN CRAMWAY TO BE COVERED 22,172.20' FT.

NEW BUILDING 575' x 85' 44,625'

NEW BUILDING 575' x 125' 70,575'

EXISTING OFFICE 18' x 19' 4,850 S.F.

REMOVE EXIST. CRAMWAY COLUMNS & CONCRETE

REMOVE EXIST. CRAMWAY COLUMNS & CONCRETE  
DETAILS MISSING & CONCRETE  
BEFORE PART OF EXISTING CRAMWAY

N 15° 32' 10" E 102.00'

N 15° 18' 23" W 637.77'

NORTH LAGOON AVE.

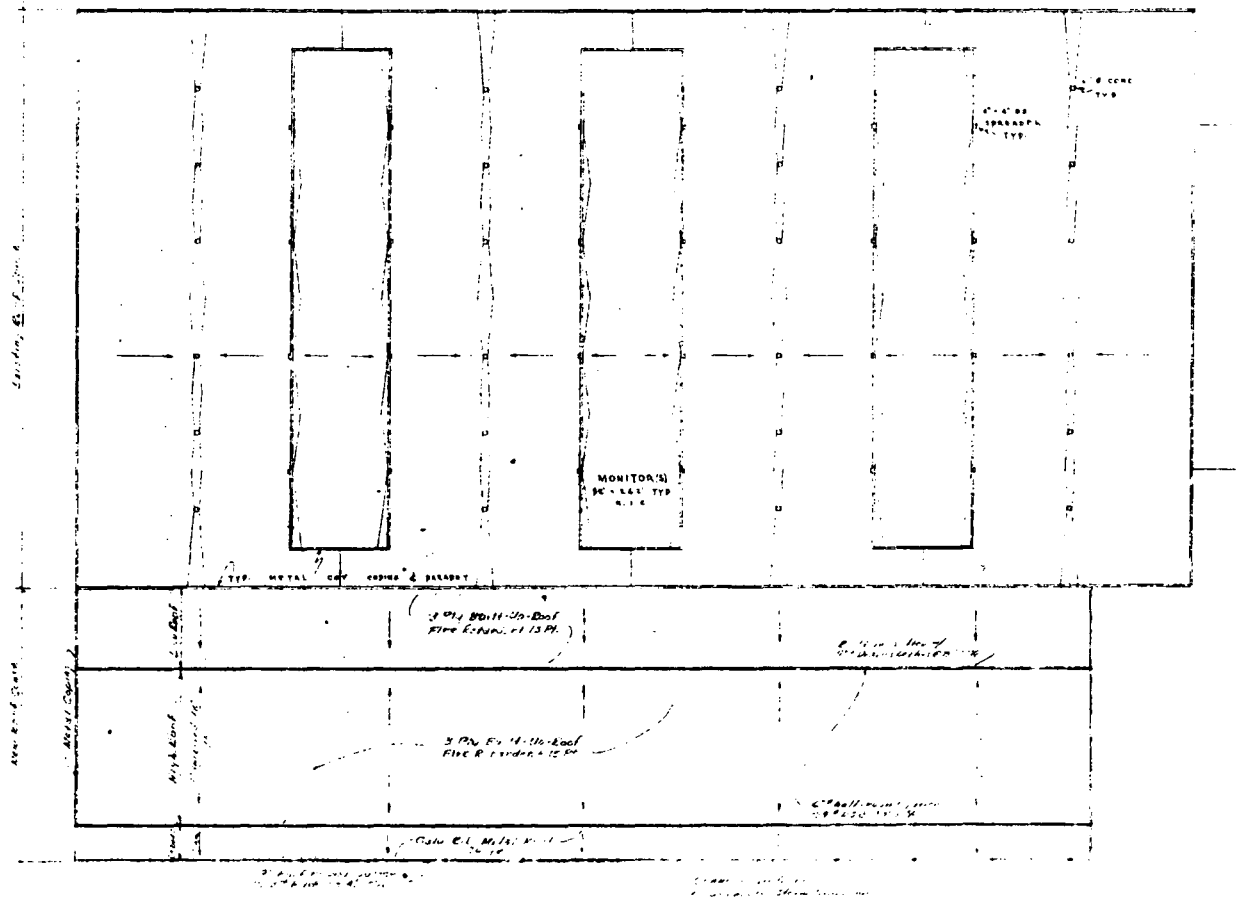
COLUMN SPACES 17 @ 20'-0" = 340'

A  
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SITE PLAN

<p>APPROVED</p> <p>DATE: 10/12/67</p>	<p>PREPARED BY</p> <p>CHAS. L. MANNING</p> <p>REGISTERED ENGINEER</p>	<p>DATE: 10/12/67</p>	<p>REVISIONS</p> <p>NO. 1</p> <p>DATE: 10/12/67</p>
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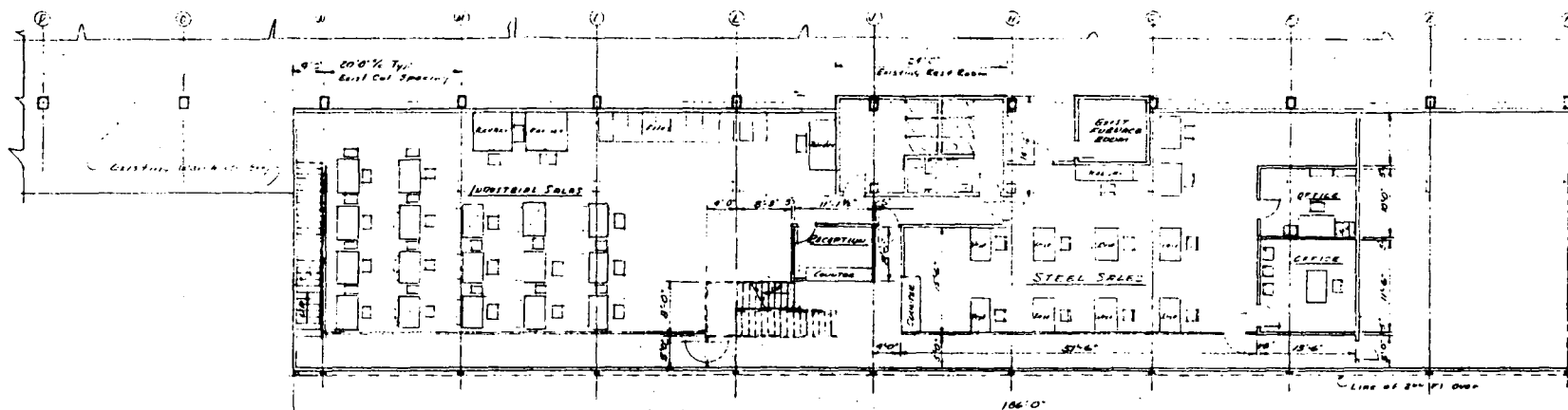


Room Plan

DRAWING NO. DATE SCALE PROJECT DRAWN BY CHECKED BY APPROVED BY TITLE ROOM NO. FLOOR NO. SHEET NO. TOTAL SHEETS DRAWING NO. DATE SCALE PROJECT DRAWN BY CHECKED BY APPROVED BY TITLE ROOM NO. FLOOR NO. SHEET NO. TOTAL SHEETS		DRAWING NO. DATE SCALE PROJECT DRAWN BY CHECKED BY APPROVED BY TITLE ROOM NO. FLOOR NO. SHEET NO. TOTAL SHEETS	DRAWING NO. DATE SCALE PROJECT DRAWN BY CHECKED BY APPROVED BY TITLE ROOM NO. FLOOR NO. SHEET NO. TOTAL SHEETS
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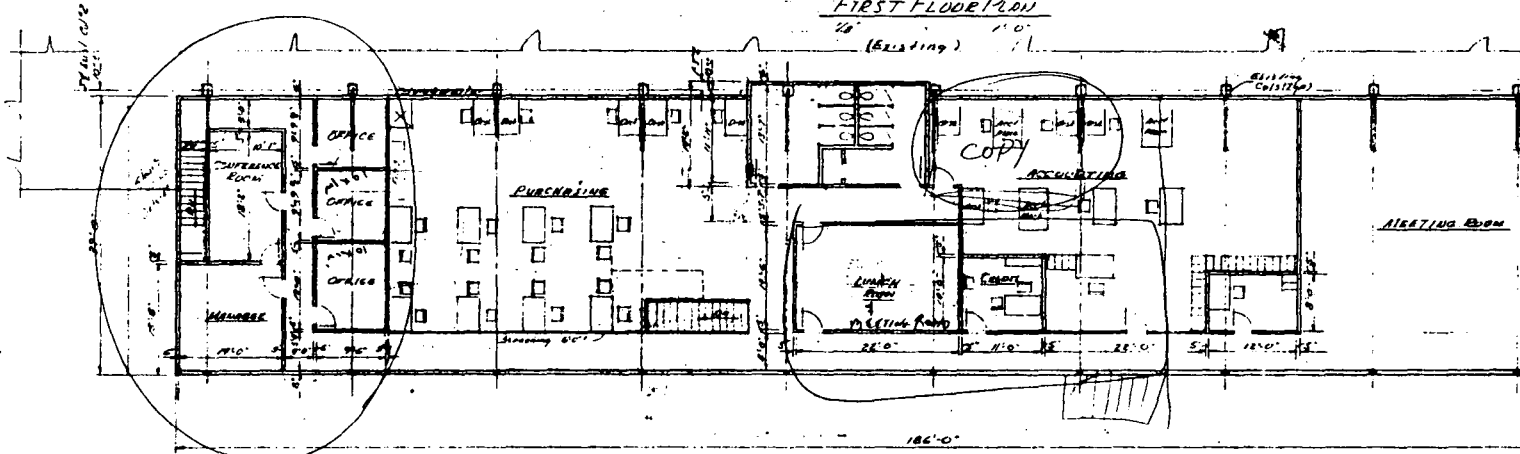




FIRST FLOOR PLAN

106'-0"

(Existing)



SECOND FLOOR PLAN

186'-0"

(New)

DRAWN BY: H. H. HARRIS CHECKED BY: J. E. MORRISON	ZAROSINSKI ENGINEERS INC. 516 E. MORRISON PORTLAND, OREGON	OFFICE EXPANSION FOR WOODBURY & CO. 1200 N. BROADWAY PORTLAND, OREGON FLOOR PLAN
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## HIGHEST AND BEST USE ANALYSIS

Highest and best use is defined as:

1. The reasonable and probable use that supports the highest present value of vacant land or improved property, as defined, as of the date of the appraisal.
2. The reasonably probable and legal use of land or sites as though vacant, found to be physically possible, appropriately supported, financially feasible, and that results in the highest present land value.
3. The most profitable use.

"Implied in these definitions is that the determination of highest and best use takes into account the contribution of specific use to the community and community development goals as well as the benefits of that use to individual property owners. Hence, in certain situations the highest and best use of land may be for parks, greenbelts, preservation, conservation, wildlife habitats, and the like." [American Institute of Real Estate Appraisers, The Dictionary of Real Estate Appraisal (Chicago, Illinois, 1984), p. 152.]

The definition above applies specifically to the highest and best use of land. It is to be recognized that in cases where the site has existing improvements, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use.

Implied within these definitions is recognition of the contribution of the specified use to the community environment or to community development goals in addition to wealth maximization of individual property owners.

The subject site contains 14.37 acres and is improved with a building occupying approximately 293,978 square feet. The facility was originally constructed in 1943 and used in the construction of ships during World War II. Subsequent to that period, the building has had various owners and uses, but has continually been used for heavy industry. The building is divided into 12 bays, each supported by an overhead crane system. Each bay has a minimum depth of 400' and a minimum height to the bottom of the crane of 27'. The building has a great deal of flexibility with the long bay configuration and 50' wall height. The only limitation to the versatility of use would have to be the 50' bay width. This has not been a limiting factor to the existing users, in that they are handling steel products and the 50' bay width presents no problem.

Overall, the site is generally conducive for heavy industrial use and river oriented users. The subject site does not have frontage on the Willamette River or Swan Island Basin, but is adjacent to the Port's dry dock facility.

It is this appraiser's opinion that the highest and best use for the subject site is as developed.

## **VALUATION METHOD**

The estimated market value of the Northwest Marine Iron Works facility assumes the highest and best use as an operating ship repair facility. To arrive at a conclusion of value, the three approaches to value will be considered. Due to the special purpose nature of the subject property, not all of these approaches will apply, however information from those approaches can assist this appraiser in identifying a final conclusion of value. These approaches are summarized as follows:

### **Cost Approach**

The cost approach is a valuation method which combines the estimated cost of construction with underlying land value, presenting the total cost or value of the project. Construction costs include all elements of construction, including site preparation, architectural and engineering fees, financing costs and contractor's overhead and profit. Other costs considered include site improvements, additional tenant improvements, if appropriate, market and leasing costs, and costs of lease-up activity and any loss in rent during the absorption period. The subject property is an operating ship repair facility with no inherent functional obsolescence noted, therefore the cost approach is a viable measurement of value.

In addition to the real property improvements, the property is encumbered with personal property generally termed machinery and equipment. For the machinery and equipment and other replaceable personal property assets, we have considered the following: extent, character and utility of the property; the estimated cost new where applicable, less an allowance for depreciation or loss of value arising from condition, utility, age, wear and tear and obsolescence; the cost of reproduction new of the individual items in accordance with market prices for labor and materials and manufactured equipment and machinery; or equipment prices from dealers reflecting value in operative condition, plus allowances for freight and installation and certain refurbishment allowances for equipment items whose price data reflected used market prices.

The cost approach, also known as the summation method, allows the arithmetic summation of the land value with the depreciated replacement cost of the improvements with the value of the personal property assets for a total indication of value of the subject facility.

### **Market Data Approach**

The market approach is based on the economic principle that a prudent investor will pay no more for a property than the cost of acquiring a satisfactory substitute property with the same utility and with no undue delay. In this application, market value is measured by what similar properties sell for in the current market. The application of this process requires analysis of these sales in comparison with the attributes of the subject property in terms of adjustment for the date of sale, conditions of sale, physical variations, locational differences, and other unique characteristics of the property. In the case of the subject property, several important issues need to be addressed in order to apply market data.

## VALUATION METHOD (Continued)

1. The location of the subject property is in such a unique position within the Portland metropolitan area that only one facility would be deemed competitive to the subject, the property adjacent to the subject and owned by the Port of Portland. The location of the subject, within a Port facility and adjacent to the dry dock, places it in a unique position to compete for ship repair contracts. Other facilities within the Portland metropolitan area have difficulty contracting for such repair work because of the prohibitive cost and physical and logistical problems of transporting large parts from the shipyard to the place of activity. Thus, facilities located in Tualatin, Clackamas Industrial Park, Guilds Lake or Vancouver, Washington would be unable to compete economically for ship repair contracts.
2. To estimate value by the market data approach, a search beyond the local boundaries of the Portland SMSA was undertaken. A national search produced several indications of value, but no identical sales to measure value directly from this approach could be ascertained. However, a method, or underlying thought process, could be obtained from the market data found in the market in west coast and east coast ship repair facilities.

The common practice in applying the market comparable approach would be the development of certain data which would allow interpolation or extrapolation of the data into an indication of value for the subject. The data from a national investigation was inconclusive in the traditional sense, but was informational to the point that it allows certain parameter understandings which are suggested by an analysis of the industry. These value parameters are foundational to our current investigation.

**Income Approach**

The income approach is based on the current income potential of the property. It considers the income-generating capability of the property and analyzes current expenses and other factors which influence the rent structure. Expenses are subtracted from the potential income, resulting in a net operating income. This is capitalized by an overall capitalization rate, indicating a final estimate of value.

Again, data could be obtained from local fabricating operations that produced an estimate of rents that could be charged by such facilities. However, information available in the national market from other ship repair facilities indicates rent significantly higher than facilities found not adjacent to or part of port facilities. This additional rent could be attributed to location or a premium placed upon those facilities that allow them to compete for ship repair contracts.

As in the market data approach, inconclusive data as to exact market rent, and therefore net operating income, was obtained. This produced an inconclusive answer as to value by the income approach. However, also as in the market approach, indicators were obtained that give indications of the market. The indicator will be discussed within that approach.

**COST APPROACH**

In this approach, the estimate of value represents the sum of the estimated land value and the depreciated reproduction cost of the subject improvements. The basic underlying assumption in estimating land value is that the subject site is vacant and available to be developed to its highest and best use. Land value is then estimated by comparing the site to sales of similarly zoned and located comparable industrial sites which have recently sold. The estimate of reproduction cost new has been derived from the Marshall Valuation Service. Typically, a deduction is made from the reproduction cost new estimate which represents the loss in value attributable to accrued depreciation. Accrued depreciation represents a quantifiable loss in value due to physical wear and tear, functional obsolescence and/or economic/locational obsolescence. In the case of the subject property, after considering all three sources of depreciation, we have concluded that the subject does not suffer from functional or locational obsolescence. In actuality, the key location of the improvements (within the Port of Portland's ship repair facility) places it within a unique position. Even though the building was constructed in the 1940, bay height and general utility makes it competitive with modern facilities. The reskinning and addition of the new bay in 1969, and the overall modernization in 1983 has kept the facility contemporary.

The sum of the estimated land value, the estimated reproduction cost new less physical depreciation, and the site improvements yield an estimate of real property value via the cost approach.

**Land Value**

The subject site contains 14.37 acres and is within the Port's ship repair area. There have been several land sales within the Swan Island or Mock's Bottom industrial parks that give indications of sales prices per acre for industrial sites. These properties are not adjacent to the Port's ship repair facility and therefore would be inferior to the subject. However, these sites are as good an indicator as is available within the Portland market and are therefore used in this analysis.

**COST APPROACH (Continued)**

**Land Sale No. 1 - Mock's Landing Distribution Center**

Location: North side of N. Cutter Circle approximately 800' south of N. Leverman Street, Portland, Oregon.

Legal Description: Block 1, Lot 3, and a portion of Lot 4, Mock's Landing Industrial Park, City of Portland, County of Multnomah.

Date of Sale: August 1981

Documentation: Book 1555, Page 1458

Grantor: Port of Portland

Grantee: Mock's Landing Distribution Center (Keller Enterprises)

Price: \$708,192

Zoning: M-2

Land Size: 4.918 acres

Sale Price/Acre: \$144,000 net area

Comments: This sale was confirmed with Peggy Krause of the Port of Portland. This parcel is part of the Mock's Landing Distribution Center. Seller has constructed a facility for paper and office products distribution.

**COST APPROACH (Continued)**

**Land Sale No. 2 - H.A. Andersen**

Location:	6712 N. Cutter Circle, Portland, Oregon
Legal Description:	A majority of Lot 7 of Phase 1 and a portion of Phase 2, Mock's Landing Industrial Park, City of Portland, County of Multnomah.
Date of Sale:	December 31, 1981
Documentation:	Book 1571, Page 876
Grantor:	The Port of Portland
Grantee:	H.A. Andersen Company
Price:	\$770,000
Zoning:	M-2
Land Size:	5.5 acres net
Sale Price/Acre:	\$140,000 net area
Comments:	This site has been improved with the H.A. Andersen warehouse facility.
Confirmed By:	Peggy Krause, Port of Portland



**COST APPROACH (Continued)**

**Land Sale No. 3 - Cummins Diesel**

**Location:** The intersection of N. Basin and N. Going Streets, Swan Island, Portland, Oregon.

**Legal Description:** A portion of Tax Lot 14, Section 20, T1N, R1E, Willamette Meridian, City of Portland.

**Date of Sale:** October 12, 1983

**Grantor:** Port of Portland

**Grantee:** Cummins Diesel

**Price:** \$608,850

**Terms:** Cash

**Zoning:** Industrial

**Land Size:** 3.69 acres

**Improvements:** None

**Sale Price/Acre:** \$165,000

**Confirmed By:** Peggy Krause, Port of Portland

**Comments:** The buyers also leased 3.31 acres with an option to purchase within two years at \$165,000 per acre, after a non-refundable deposit of \$67,000. They leased an additional 1.52 acres for 30 years with the rental based on 10% of the land value. An option to purchase this land was also given based on the land value after ten years.

Approximately four acres is now usable. The remainder is a portion of the lagoon now being filled by the Port of Portland.

**COST APPROACH (Continued)**

**Land Sale No. 4 - Cousins Home Furnishings**

Location:	5910 N. Cutter Circle, Portland, Oregon
Legal Description:	Mocks Landing Industrial Park
Date of Sale:	January 1984
Grantor:	Port of Portland
Grantee:	Cousins Home Furnishings
Price:	\$1,119,700
Zoning:	Industrial
Land Size:	7.9 acres
Sale Price/Acre:	\$141,734
Comments:	The purchaser constructed a furniture distribution center on this site.
Confirmed By:	Seller

# Comparable Land Sales

Subject

SW ISLAND BASIN

WILLAMETTE RIVER

## COST APPROACH (Continued)

## LAND COMPARABLES

<u>No.</u>	<u>Name</u>	<u>Date</u>	<u>Size (Acre)</u>	<u>Zoning</u>	<u>Sales Price</u>	<u>Price/Acre</u>
1	Mock's Landing Distribution Center	8/81	4.918	M-2	\$ 708,192	\$144,000
2	H.A. Andersen	12/81	5.50	M-2	\$ 770,000	\$140,000
3	Cummins Diesel	10/83	3.69	M-2	\$ 608,850	\$165,000
4	Cousins Home Furnishings	1/84	7.90	M-2	\$1,119,700	\$141,734
	Subject	3/86	14.37	M-2		

## Land Sales Analysis

In order to value the subject industrial land, we have utilized the comparative method. This technique calls for analyzing sales of similar comparable land in terms of the unit of value which, in this case, the market dictates to be the price per acre method. After adjusting for differences in the comparable sale properties, or at least taking into careful consideration the differences between the sale properties and the subject, these appraisers then arrived at an opinion of the subject's market value.

With regard to change in value over the study period, the appraisers were unable to locate any sales-resales of industrial land with to accurately abstract any appreciation/depreciation rate. The consensus within the real estate community, by knowledgeable appraisers, brokers and developers, is that a very small amount of appreciation, although difficult to measure, has occurred for this type of property over the study period from late 1981 to the present. However, this appreciation has been very slight and, for valuation purposes, almost negligible. Also, the Port of Portland basically has a monopoly on all of the vacant industrial land on the Swan Island basin and, similarly, effectively fixes the prices of said land. This monopolistic, price-fixing power is somewhat limited, however, because there are competitive industrial areas within the greater Portland metropolitan area which are not controlled by the Port of Portland. Therefore, the Port still must price their land within the limitations imposed by the marketplace.

**Land Sale No. 1** is located on the north side of N. Cutter Circle, approximately 800' south of N. Leverman Street in the Mock's Landing Industrial Park. This was the first sale to occur within the park, in August 1981. This 4.918 acre site sold for \$144,000 per net acre, and was later improved with the Mock's Landing Distribution Center.

**Land Sale No. 2** was the second sale within Mock's Landing Industrial Park. This December 1981 sale was for 5.51 acres at \$140,000 per net acre. The site was subsequently improved with the H.A. Andersen warehouse and home office facility.

## COST APPROACH (Continued)

**Land Sale No. 3** is located at the intersection of N. Basin and N. Going Streets, at the entrance to the Swan Island Industrial Park. Cummins Diesel purchased this 3.69 acre site in October 1983 for \$165,000 per acre.

**Land Sale No. 4** is located at the intersection of N. Cutter Circle and Leverman Street. Cousins Home Furnishings purchased this 7.9 acre parcel in January of 1984 on the basis of \$141,734 per acre. This site is approximately 1/2 the size of the subject property.

There are several parcels available in the Mock's Landing Industrial Park for either sale or lease. The listed prices per acre is \$150,000 to \$160,000 for parcels which are less than five acres in size. For parcels larger than five acres, the price per acre is \$140,000 to \$150,000. Rail-served property sells for a premium of \$3,000 per acre. Certain properties are offered on a lease only basis, with annual ground rent based upon a 10% return rate to the land values already cited. Rent is net to the Port, i.e., tenants pay taxes, utilities, insurance, maintenance and other costs associated with the use of the property. In addition, the rent is subject to escalation at three-year intervals to reflect changes in land value. The 10% rate of return is constant for the lease term. In general, the Port is open to long-term ground leases of up to 30 years in duration. The subject site contains 14.37 acres and is located at the north end of the Swan Island Industrial Park. This is an older section of the Industrial park but is considered a prime location within the park. It is this appraiser's opinion that a consistent rate of \$140,000 per acre is indicated from the sales. Therefore, the indicated value of the subject site is:

$$14.37 \text{ acres} \times \$140,000/\text{acre} = \$2,011,800$$

$$\text{Rounded:} \qquad \qquad \qquad \$2,012,000$$

## COST APPROACH (Continued)

## Building Value

To estimate the value of the subject building by the cost approach, the builders' method of estimating reproduction cost has been used. Direct costs (including labor, materials, equipment and subcontractors' fees) have been included, plus the indirect costs (including profit and overhead, architects' fees, survey, legal fees, permits and licenses, insurance, taxes, finance charges, selling and management expense). An estimated amount of depreciation from all causes is deducted to arrive at a final estimated reproduction cost new of Improvements less accrued depreciation.

Three sources were used to estimate reproduction cost new: (1) an earlier appraisal by General Appraisal Company, adjusted for changes to the buildings plus passage of time; (2) the Marshall & Swift Cost Service wherein contemporary costs for similar structures is estimated; (3) a current appraisal of a recently constructed similar structure in the Portland area where the true cost of construction was known.

## Reproduction Cost New (Building)

Direct Costs	
Excavation	\$ 41,300
Concrete below ground	402,800
Concrete above ground	11,400
Blacktop paving (Interior)	75,600
Concrete on ground	439,000
Surface drains	13,050
Steel structure	5,280,300
Exterior concrete work	3,000
Wood construction	943,200
Sprinkler system	421,200
Painting	95,330
Exterior walls	239,700
Office construction, including:	
Floors, walls, ceilings, roofing,	
heating, lighting, air conditioning,	
carpet, partitions, doors and windows	724,170
Factory area construction, including:	
East warehouse extension, lunchroom and	
restrooms, stock rooms and fenced	
areas, shops and superintendent offices	
and foremen's offices	362,080
General construction features	
Electrical supply	269,280
Lighting in factory	241,920
Plumbing (underground)	26,400
Roofing	196,500
Roof drains	6,210
Signs	<u>2,000</u>
Subtotal (building)	<u>9,794,440</u>

## COST APPROACH (Continued)

Yard Improvements	
Blacktop	140,500
Concrete curbs	2,500
Fencing	29,230
Railroad track (including portions in building)	281,500
Storm sewer	17,340
Landscaping	21,500
Utilities in dormitory area	<u>245,000</u>
Subtotal (yard improvements)	<u>737,570</u>
Indirect costs	
Job supervision (1.5%)	157,980
Plans and specifications (3%)	<u>316,000</u>
Subtotal indirect costs	<u>473,980</u>
Subcontract specialties	
Truck scales	10,000
Fueling station with tanks	<u>5,000</u>
Subtotal	<u>15,000</u>
Total reproduction cost new	<u>11,020,990</u>

Depreciation is defined as "the loss from the upper limit value." An effect caused by deterioration or obsolescence: deterioration is commonly known as depreciation and is divided into areas of physical curable and physical incurable. Obsolescence is characterized into functional obsolescence (curable or incurable) and environmental or economic (which is always incurable).

Depreciation estimates for the subject improvements have been made on an age/life basis. This estimate is derived from estimating total economic life of the improvements and therefrom deducting the effective age of the existing improvements. This will leave a remaining value for the improvement.

The subject building was originally constructed in 1943 and has been extensively remodeled since the original date of construction. The front office and east bay addition was completed in 1968. The entire property was extensively refurbished in 1983. In checking comparable buildings in the Portland and Vancouver areas, this appraiser found one new, high-bay building recently constructed. However, in reviewing occupancy rates in similar buildings, the majority were occupied by owner-users. The occupancy rate would indicate demand for buildings similar to the subject.

## COST APPROACH (Continued)

The following depreciation estimate has been made:

	<u>Cost New</u>	<u>Depreciation</u>	<u>Remaining Value</u>
Yard Improvements and Subcontract Specialities	\$10,235,230	23%*	\$ 7,881,100
	<u>785,760</u>	20%	<u>628,600</u>
Depreciated value of Improvements	\$11,020,990		\$ 8,509,700
Estimated site value			<u>2,012,000</u>
Total value indication (real estate)			\$10,521,500
Rounded:			\$10,520,000

## Contents Value

To the indicated value of the real estate from the cost approach, we will add the value of the appraised contents of the property. The contents can be generally termed machinery and equipment, and can be sub-categorized as:

Bridge Cranes  
Miscellaneous Equipment (throughout the plant)  
Mobile Equipment  
Forklifts  
Office Contents

## Bridge Cranes

The factory area is served by top running bridge cranes of 5, 10 and 20-ton capacities. Bays 2 through 11 have 50' span cranes of 1943 vintage with contemporary electrification, drives and controls (1983), and each bay has multiple cranes and they are periodically relocated from bay-to-bay. The bay on the east side of the building (1969) is served by 10 and 20-ton top running, 85' span cranes.

Estimate of installed cost or reproduction cost new of \$1,200,000 less depreciation (cost weighted):

10 5-ton capacity x 50' span	
10 10-ton capacity x 50' span	
1 10-ton capacity x 85' span	
1 20-ton capacity x 85' span	\$1,200,000

Five year effective age

20 year remaining life	<u>(20%</u>
------------------------	-------------

Cost approach contribution to market value	\$ 960,000
--------------------------------------------	------------



## COST APPROACH (Continued)

## Miscellaneous Equipment (throughout the plant)

Qty.	Description
3	Portable sandblaster
21	Misc. Paint pumps
3	Portable high pressure washers
2	Portable paint trailers w/pump
1	Portable paint truck w/pump
98	Portable air flow fans
5	Pipe threaders
1	Malsbury combination pressure washer/steam cleaner
1	Hand bending brake - 4 ft.
1	Hand bending brake - 6 ft.
1	Hand bending brake - 10 ft.
1	Powermatic 20" bandsaw
1	GV Nibbler, Model medium, S/N 56165
1	Wysong Shear, Model 1025, S/N P37-184
1	Pacific Hyd. Press Brake, Model 200-12, #3803
1	Pacific Hyd. Press Brake, Model 1500-27, S/N 3315
1	Mubea Univ. Iron worker, Model KBC 1/2, S/N 133/15359/17
1	Pyramid Roll Former, 4 ft.
1	Wood shop dust collection system
6	Lincoln welders, Mod Sam 650-63400
104	Various Lincoln welders, 400 to 600 amp.
139	Various Miller welders, 400 to 600 amp.
12	Various Airco welders, 250 to 400 amp.
7	Various miscellaneous welders
2	Worthington trailer mounted air compressors, Model 1347
2	Sandblast cabinet, hand type w/dust collection
3	Small sandblast cabinet
1	Portable bilge pump, 30 HP
4	Welding positions, various capacity
15	Welding positions, Roll type, various capacity
2	Wells horizontal bandsaw, Model 1000
1	Marvel auto horizontal bandsaw, Model 81A7/M3M/M5
1	Coast pipe bender, Model 6 RD
1	Oster threading machine, Model 6A
1	Worthington Monorotor air compressor, Model P-240-60
1	Plant manufactured oil flushing system
1	Plant manufactured valve test system
1	Plant manufactured pump test system
1	Parker mechanical shear, Model 1472
1	K.O. Lee tool grinder, Model B60628
2	Dake 50-ton Hyd. H-frame press
1	Lagun Republic vertical milling machine, Model FTV-1
1	Fosdick radial arm drill, 12" x 4' sensitive
1	Axelson engine lathe, 22-1/2" swing x 78" oc
2	Clausing Colchester 21" engine lathe

## COST APPROACH (Continued)

## Miscellaneous Equipment (throughout the plant)

Qty.	Description
1	Hercules Ajax 17" engine lathe
1	Steptoe 16" horizontal shaper
1	Bridgeport vertical milling machine
1	Milwaukee K&T #3B horizontal mill
1	Lucas #31 precision boring mill
1	Nebel 24" x 10' engine lathe
1	Nebel 22" x 6' engine lathe
1	LeBlond 18" x 4' engine lathe
1	Ikeda radial drill 12" x 5'
1	Hyd. press, 18" x 5' cylinder, 400-ton
1	Hyd. transport "Big Foot"
4	Tuggers
1	Motorola radio, base unit and remotes
1	Motorola radio, base unit and remotes
1	Yale floor scale, 4500 lb., 4' x 5' platform
1	Oliver drill bit sharpener, Model 21
1	Oliver drill bit sharpener, Model 500
22	Post mounted jib crane, 2-ton, 16-30 ft. boom
5	Post mounted jib crane, 2-ton, 16-30 ft. boom, no hoist
3	Post mounted job crane, 1-ton, 16-30 ft. boom
1	Post mounted jib crane, 1/2-ton, 16-30 ft. boom
3	Mast mounted jib crane, 2-ton, 30 ft. boom
2	Post mounted jib crane, 2-ton, 20-30 ft. boom, manual hoist
1	Tanaka Eng. pattern cutting torch, 6 head
1	Airco pattern cutting torch, 5 head
2	Wells horiz. band saw, Model 8
1	Scotchman shear/punch, Model 9075-24
1	Hercules shear, 10' x 3/4"
1	Peddinghaus punch, Model 210/16
1	Aronson welding manipulator w/welder
1	Whitney punch press, 96-ton
4	Paint shop wet type exhaust units, 20' x 5' x 14'
5	Portable storeroom w/equipment
1	Group misc. equipment stored in yard
1	Group misc. general plant equipment including hand tools, hand power tools, furniture and small machines

## COST APPROACH (Continued)

## Mobile Equipment

Year	Description	Make	S/N
1966	Semi tractor #10 w/trailer	Chevrolet	L63365170004
1976	Semi tractor #30 w/trailer	Chevrolet	CTE665V165350
1975	Semi tractor #37 w/trailer	Freightliner	CA210ZP113685
1975	16-ft. flatbed #39	Chevrolet	CCE625Y155815
1967	18-ft. flatbed #31	Int'l.	456090G238427
1977	1-ton flatbed #36	Chevrolet	CCL337J163642
1976	1-ton flatbed #13	Chevrolet	CCL336Z132266
1982	1-ton flatbed #38	Chevrolet	1GBHC34M2CJ117557
1977	1-ton flatbed #46	Chevrolet	CCL337J161440
1976	1-ton flatbed #47	Chevrolet	CCL336Z132333
1977	1-ton flatbed #49	Chevrolet	CCL337J160183
1977	1-ton flatbed #50	Chevrolet	CCL3361104450
1982	3/4-ton pickup #23	Chevrolet	2GCGG24M5C1139077
1979	"Luv" pickup #29	Chevrolet	CLN1498265121
1982	3/4-ton pickup #97	GMC	2GTFC24HXC1533771
1982	3/4-ton pickup #98	GMC	2GTFC24H4C1533765
1982	3/4-ton pickup #99	GMC	2GTFC24H8C1533767
1982	3/4-ton van #25	GMC	2GOGG35M8C4518868
1964	Tanker truck #18	White	488262
1962	Tanker truck #20	GMC	LA5003N3326G
	Karry crane, 12,000 lb. #14	JLG	8700268
1981	Karry crane, 12,000 lb. #26	JLG	0408 000282
1981	Karry crane, 12,000 lb. #27	JLG	0408 000284
	Karry crane, 6,000 lb. #17	Hyster	-
	Karry crane, 6,000 lb. #4	Hyster	-
	Mobile crane, 50,000 lb., #X	Grove	16723
	Group 25 golf carts	Yamaha/Harley Davidson	

## COST APPROACH (Continued)

## Forklifts

Manufacturer	No.	Description	Model	S/N
Hyster	#19	11,000 lb. capacity gasoline engine	H110F	D6D1547P
Hyster	# 5	5,000 lb. capacity gasoline engine	H50F	83D8390P
Hyster	#25	20,000 lb. capacity gasoline engine	-	87P6194S
Towmotor	#21	5,000 lb. capacity LPG engine	T50B	12N1839
Clark	# 3	15,000 lb. capacity diesel engine	CNY160BD	109-954
Toyota	#22	2,000 lb. capacity gasoline engine	FG-20	13611
Toyota	#78	3,000 lb. capacity LPG engine	42-4FG15	F0FG18-10776

COST APPROACH (Continued)

Office Contents - First Floor

Desks  
Chairs  
1-drawer file cabinets  
2-drawer file cabinets  
3-drawer file cabinets  
4-drawer file cabinets  
5+-drawer file cabinets  
Tall clothes locker  
Floor mats  
Office tables  
Bookcases  
Conference table  
Portable partitions  
Electric typewriters  
Manual typewriters  
Calculators  
Projector - 16mm sound  
Slide projector w/tape unit  
Overhead projector  
Microfiche

## COST APPROACH (Continued)

## Office Contents - Second Floor

Desks  
Chairs  
1-drawer files  
2-drawer files  
3-drawer files  
4-drawer files  
5+-drawer files  
Tall locker  
Floor mats  
Office tables  
Bookcases  
Conference tables  
Executive furniture  
Wood drafting tables  
Credenzas  
Light table  
EDP File  
Electric typewriters  
Calculators  
Cummins Check perforator  
Bruning PD80 copier  
Bruning PD160 Blueprint machine  
Binder punch  
Shredder  
Television monitors  
Meter base  
Teletype  
Moore Model 400  
Talb burster  
Kroy lettering system  
Wang word processor w/2 terminals  
Refrigerator  
Microfiche  
Microfiche printer  
Primus computer system

## COST APPROACH (Continued)

To the preceding categorical totals for the cost to acquire used, assets similar in character to the subjects inventoried at Northwest Marine Iron Works, we must add the cost to transport those items from their offered location to the Swan Island site, spot them in the plant and connect, install, electrify and provide foundations (as applicable). The current cost to perform the "freight and installation" is estimated to be \$1,500,000.

Northwest Marine Iron Works is an operable facility with all items in an operating condition, warranted to the current operators as to quality of service, and is operable on a turnkey basis. The tangible elements such as refurbishment and inspection, plus the indirect element of supervision and testing to a turnkey quality is estimated to add an additional \$1,500,000 to the cost to acquire used plus freight and installation. In this instance, using the premise of value set forth in this report, it is this appraiser's opinion that all these costs contribute to value. As such, the contents contribute \$6,481,230 to the cost approach market value indicator.

## Summary

Land	\$ 2,012,000
Building and yard improvements	8,509,700
Equipment	<u>6,481,230</u>
Total	\$17,002,930
Rounded:	\$17,000,000

#### MARKET DATA APPROACH

The comparative market approach suggests prices paid for comparable assets or by direct substitution equivalent to the value of the asset being considered. Degrees of comparability exist, and commonly adjustments are made to equate the comparable to the subject. Typical adjustments are for inherent physical differences (size, capacities, etc.) external to the subject, locational market differences, and price adjustments due to time, terms of the transaction or differences in absolute revenues upon which prices are calculated.

We have investigated the national shipbuilding, refurbishing and repair industry. We have held discussions with governmental units, Department of Transportation, Maritime Administration and the U.S. Navy, industry groups, Shipbuilders Council of America, operators, sellers and buyers of facilities.

We have carefully reviewed all activity since 1980. Commercial ship orders in 1980 were 66. Currently there are five being built, with no new orders. The military is the only area of new construction. Of 110 shipyards in 1980, 25 have closed and further closings of that magnitude are expected. Bethlehem Steel divested itself of its yards to other operators in Boston, Hoboken and San Francisco. It also sold to alternate users its Baltimore facility.

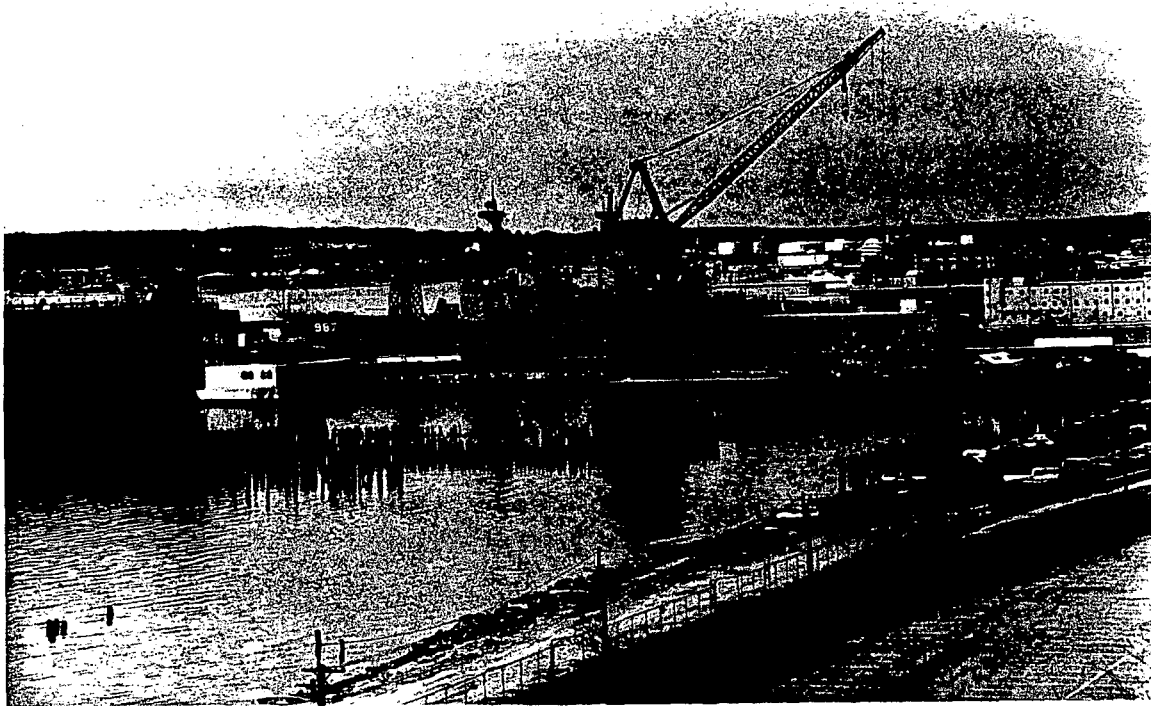
We have visited facilities in Bath and Portland, Maine, Boston, New York, Norfolk, Virginia, Savannah, Georgia, New Orleans, Houston, San Diego, Los Angeles, San Francisco and Seattle areas. We have discussed this assignment with knowledgeable participants, appraisers, brokers and other witnesses to the events and transactions. The transactions analyzed were a function of cost. Few were for the elimination of competition. Prices paid were calculated in light of the cost to create an alternative assemblage of assets or to avoid and reduce current costs incurred in operating less economic facilities. Northwest Marine Iron Works consolidated all its operations in this one Portland facility on the basis of consolidating and reducing operating costs in exchange for the increased capital costs of a new assemblage in one facility. As a result, their market advantage is expected to be greater.

Of the above-named locations, specific market information could be obtained in the following properties to support our opinion that cost is a function of market activity within the shipbuilding industry.



## MARKET DATA APPROACH (Continued)

## Comparable No. 1 - Lease of Bath Iron Works, Portland, Maine



Date: January 18, 1982

Lessor: City of Portland, Maine

Lessee: Bath Iron Works Corporation

Leased Property:

The site was originally used as a public facility for the ferry system. The need for the ferries changed, and the facility became excess to the needs of the City. The site contains 134,200 square feet (3.018 acres) of land. A 170' x 900' pier projects from the land. Situated upon the pier is a 121,100 square foot, wood frame building. The building is used as a light fabricating facility, as well as a ship outfitting facility. Upland improvements consist of a 41,550 square foot, open shed building. The building has a 17' interior clearance, and is used for storage. The second building is two stories in height, with the first floor open storage and approximately 3/4 of the second floor as office. Other improvements consist of a power station, gate houses, boiler and compressor building and miscellaneous storage building, as well as yard paving. The facility is fenced for security.

MARKET DATA APPROACH (Continued)

A floating dry dock is used at this facility, which is leased from the State of Maine. A portion of the property will be discussed under Comments.

Terms:

The base lease will run from February 1, 1982 through December 31, 2001. There will be a five-year cancellation for privilege, as well as a purchase provision. The total cost of the project is \$20,100,000. The City of Portland invested \$15,000,000 in purchase and capital improvements. The financing of the project was through industrial development bonds (20 years at 11.4%), with annual installments of \$1,907,285. The payments are to be made by Bath in the form of rent.

The State of Maine invested in the purchase and upgrade of the floating dry dock. The State contribution totaled \$15,000,000, the City of Portland was to invest \$2,700,000 in upgrades, and Bath was to invest \$4,500,000. The State financed the purchase and upgrade in the same manner as the City, and will be repaid within eight years. Payments are \$1,505,592, and are to be made by Bath. In addition, Bath is to purchase \$5,500,000 in equipment over the next five years, as well as relocate some of the equipment from Bath to the Portland facility.

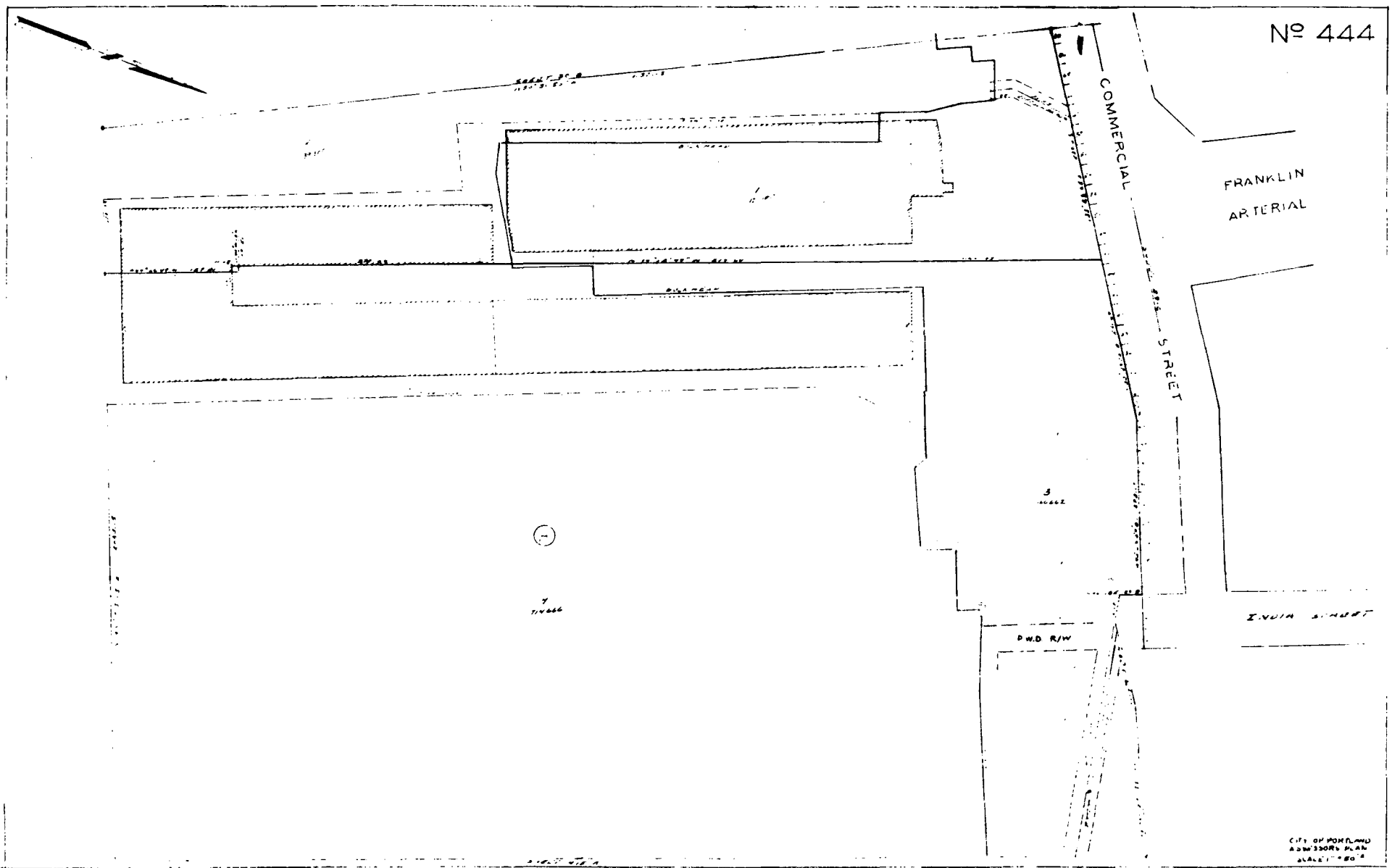
Rent Indicated:

In this particular instance, meaningful per square foot rent could not be achieved. The basis for the rent was the cost of purchase and capital improvements to the facility. Bath Iron Works has a significant facility in Bath, Maine (30 miles north), and considerable effort was expended by both the City of Portland and the State of Maine to retain and accommodate the expanded operation and facilities needed by Bath.

Comments:

The floating dry dock was acquired by the State of Maine from the Department of the Navy. Subsequent to purchase, major revision of the electrical system was undertaken. The remainder of the upgrades took place after the agreement with Bath was consummated. The purchase option states that Bath will have an opportunity to purchase based upon the capital cost less amortization of debt at the time of purchase. All capital costs were based upon pre-determined land value, out-of-pocket costs and reproduction cost new less depreciation for existing improvements.

No 444



MARKET DATA APPROACH (Continued)

Comparable No. 2 - Sale of San Diego Facility (Improvements Only)



Location: East side of San Diego Harbor, south of downtown area. Frontage on Fifth Avenue, Harbor Drive and Eighth Avenue.

501 East Harbor Drive, San Diego, California

Date of Sale: June 1, 1985

Documentation: Order No. 1126

Grantor: Campbell Industries

Grantee: San Diego Unified Port District

Price: \$3,150,000

Terms: Cash

Zoning: Industrial

Land Size: 14.01 acres

Improvements: Six buildings totaling 81,746 square feet. Improvements consisted of a modern, two-story office building and miscellaneous fabrication and storage buildings. Although on the waterfront, no dockage or wharfage was

## MARKET DATA APPROACH (Continued)

available. The property was occupied by Campbell since 1973. This facility was used for small craft repair and fabrication. Campbell occupies the adjoining parcel to the south and has its own dry dock and wharfage upon that site.

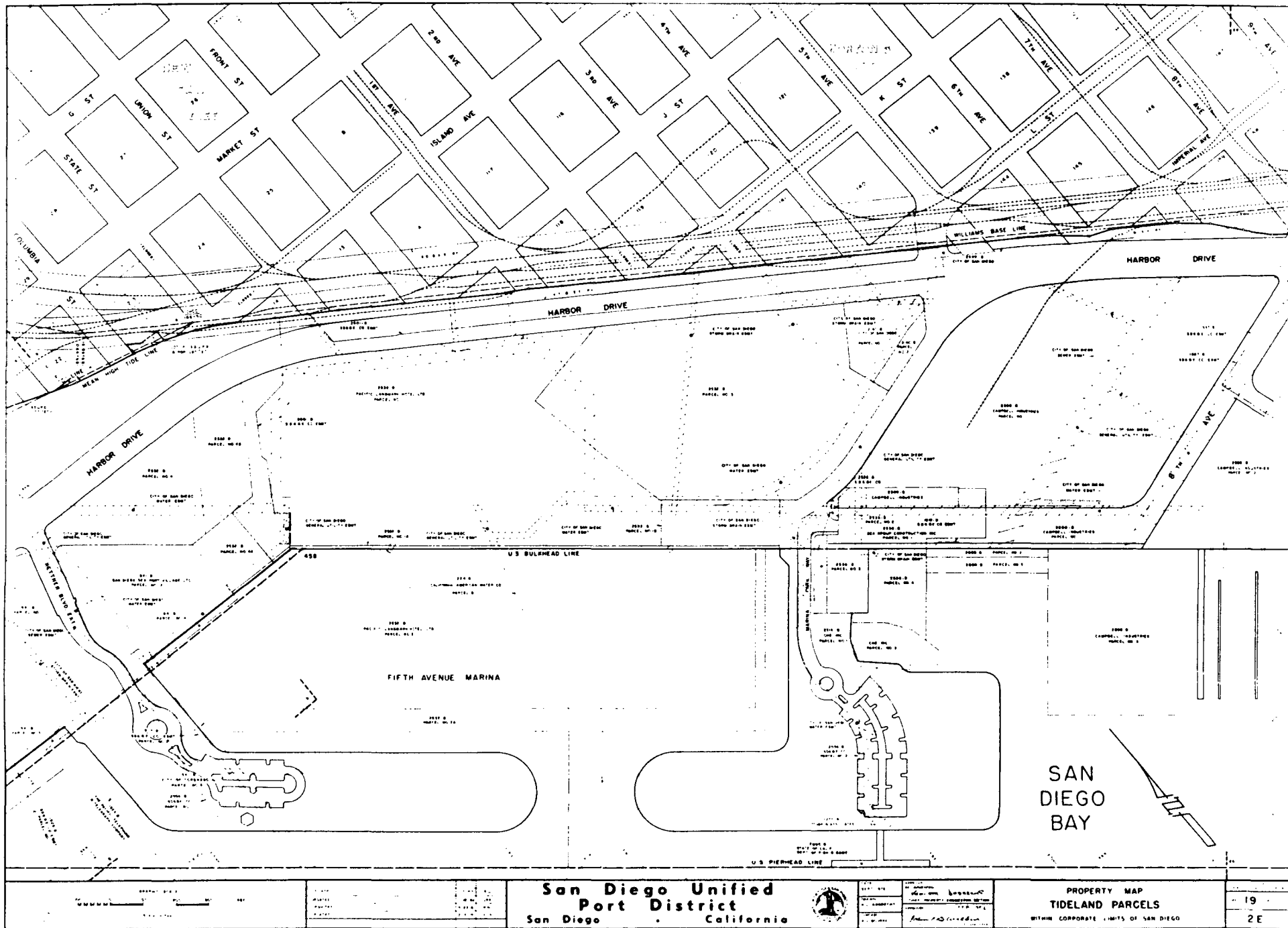
Price per Sq. Ft.  
of Building Area:

\$38.53

## Comments:

In 1984, the Port prepared a cost approach appraisal of improvements, concluding that the estimated cost less depreciation was \$3,600,000. The negotiations produced a final price of \$3,150,000. Campbell, in addition to the sale, will retain ownership of a 2,160 square foot portable building, which it will remove along with its furniture, tools, equipment and other personal property.

A 66,519 square foot parcel of land area currently under permit to Campbell will be incorporated into a new lease. Campbell's rent, which will continue to be based on its existing rental rate of 60 cents per square foot for land and 15 cents per square foot for water, will decrease from \$49,821 to \$22,745 per month, as a result of the reduced areas under lease. The rent is subject to a CPI adjustment on June 1, 1986. Open rent negotiations will occur on December 1, 1988. One must remember that Campbell Industries leased the land from the Port of San Diego and owned the leasehold improvements. This portion of the agreement reduces the land area that Campbell controls, and gives the Port of San Diego the option to redevelop the area whereby leasehold improvements were purchased.



## MARKET DATA APPROACH (Continued)

## Comparable No. 3 - Todd Facility - San Francisco, California



Date: November 1982

Lessor: Port of San Francisco

Lessee: Todd Company

Leased Property: The Port owned the real property (land and buildings) and the lessee owned the machinery, equipment, cranes and dry docks.

The leased property consisted of 539,000 square feet of buildings, 32.867 acres of upland, and 6.38 acres of submerged tidelands. The owner's (Todd) portion of this location consisted of seven whirley cranes, two floating dry docks, and approximately \$10,000,000 in equipment.

Terms: \$1,800,000 per year for the upland and buildings for the first five years. \$2,040,000 per year for the next 25 years. \$90,919 per year for the submerged land. In addition, Todd must spend \$10,000,000 in improvements to the building within the first five years, and \$1,500,000 in annual maintenance. The major deficiency within the property is the age and condition of the improvements. Many of the facilities date back to World War I. The major upgrading related to:

## MARKET DATA APPROACH (Continued)

1. Building No. 115 - (Fab Shop). This building was constructed in 1917, and was in poor condition. Needed were replacement of the roof, renewal of interior cranes, completely new lighting, new concrete floor, repainting of the exterior, and repair of overhead doors.
2. Building No. 111 - (Warehouse). The building was constructed in 1915, and rebuilt in 1939. The boiler system was never completed. Completion, installation and upgrading of lines is needed.
3. Pier 1. Constructed in 1915, it was rebuilt in 1939. 371' was constricted to pedestrian traffic. The pier represented a fire hazard. The agreement states that the pier was to be removed and a bulkhead reestablished on the west side with installation of concrete caps and extension of necessary fire lines and lighting.
4. Building No. 101 - (Main Office). The building was constructed in 1917, and is in disrepair. The existing boiler needed to be replaced, as well as upgrading the wiring. The roof needed to be replaced. The building has not been remodeled, and is an antiquated facility.
5. Pier 4. Constructed in 1958. The bearing piles had deteriorated 25% beyond the original thickness. The piles were to be encased in concrete. The electrical system needed to be upgraded.
6. Piers and Bulkheads. These vary in age from 15 to 67 years. The fender system needed to be renewed, primarily to prevent damage to more modern ships.
7. Slip No. 4 - (Building Ways). The structural support system for the crane track needed to be improved to support additional weight.

## Rent Indicated:

The monthly rental rate indicated from land improvements is 28 cents per square foot per month compared to the building area. If the capital improvements costs (\$10,000,000) were added to the base rental period, the monthly rental rate would be 59 cents per square foot.



MARKET DATA APPROACH (Continued)

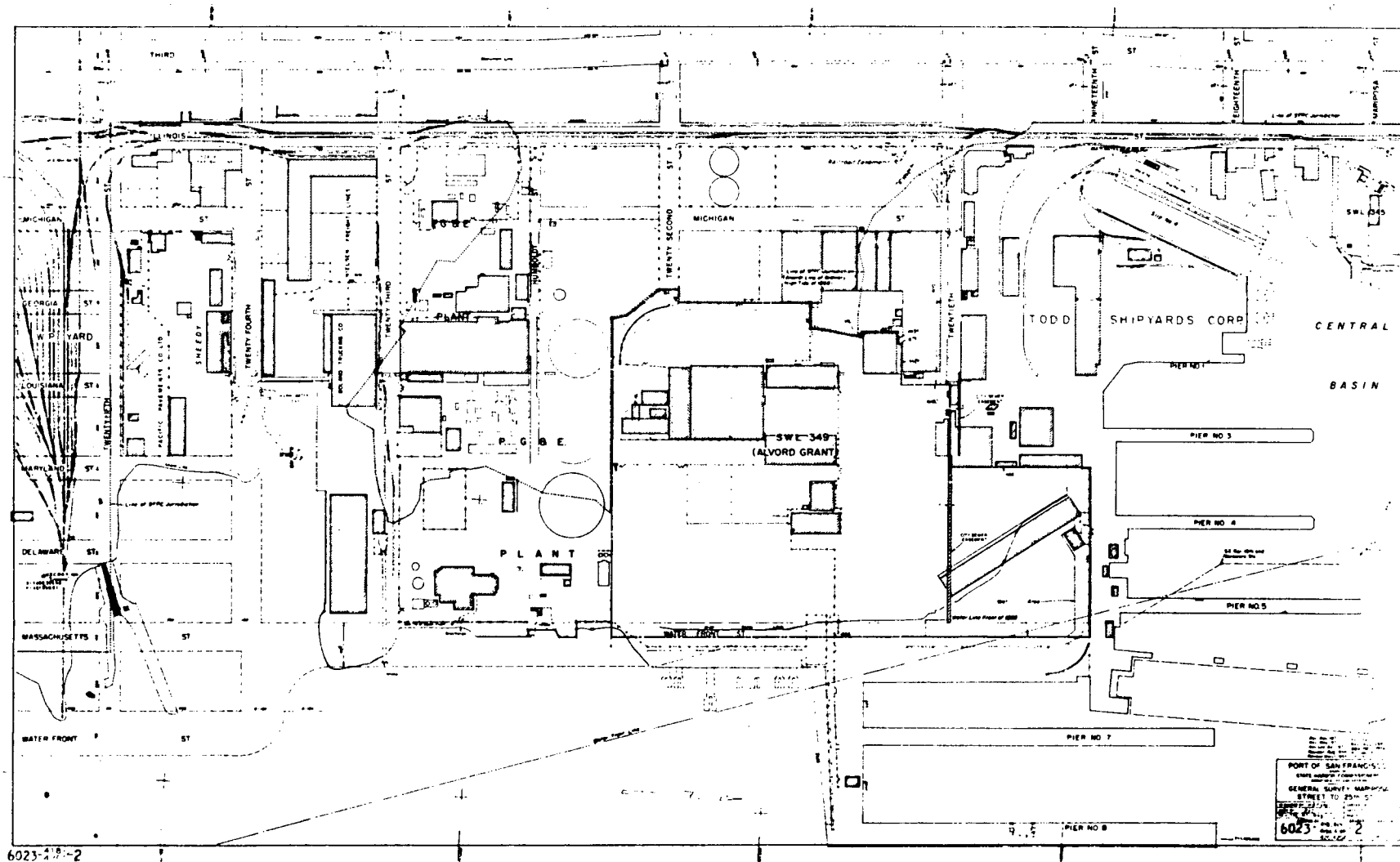
Land rent of the submerged land is 2.7 cents per square foot per month.

Confirmation:

Jack Conrad (Director of Finance and Administration, Port of San Francisco).

Comments:

As noted in the other properties, land rent was estimated through appraisal and based upon a rate of return, and improvement rent was predicated upon reproduction cost new less depreciation, plus capital costs for deferred maintenance.



## MARKET DATA APPROACH (Continued)

## Plant Sales - Non-Marine Facilities Within Portland SMSA

## Plant Sale No. 4 - American Hardwoods



Location:	12430 S.W. Herman Road, Tualatin, Oregon.
Date of Sale:	March 1984
Grantor:	Pettibone Corp.
Grantee:	American Hardwoods
Price:	\$850,000
Terms:	Cash
Zoning:	Industrial
Land Size:	15.17 acres
Improvements:	42,000 square foot, steel frame and metal clad manufacturing building with minimal, below average-quality office space.
Sale Price/Sq. Ft.:	\$20.24
Sale Price/Sq. Ft. Excluding Land:	\$9.40
Estimated Land Value:	\$30,000/acre

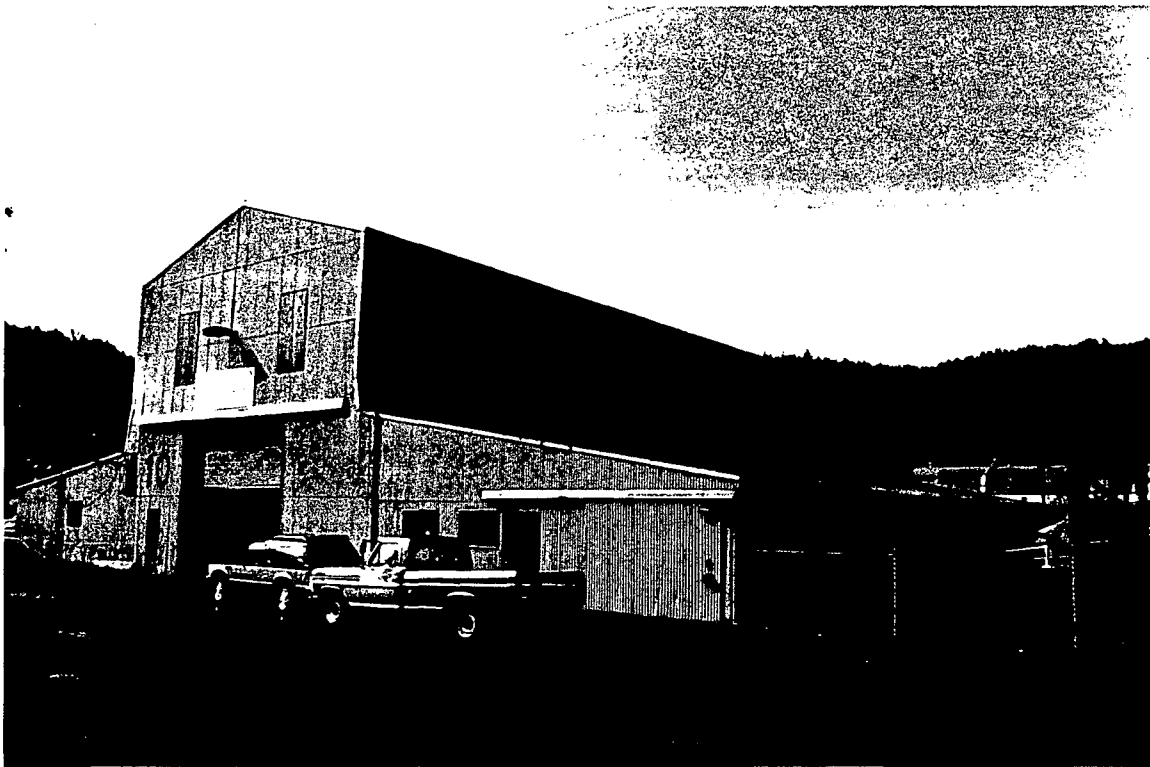
**MARKET DATA APPROACH (Continued)**

Site Coverage: 6%

Confirmed By: Ed Meany, Agent

## MARKET DATA APPROACH (Continued)

Plant Sale No. 5 - Freman



Location: 2537 N.W. 29th Avenue, Portland, Oregon.

Legal Description: Tax Lot 10, Block 435, Industrial Center Addition.

Date of Sale: March 26, 1984

Documentation: Book 1735, Page 1834

Grantor: Northwest Marine Iron Works

Grantee: Michael O. Freman, et al.

Price: \$412,500

Terms: Cash

Zoning: M-1, Heavy Industrial

Land Size: 65,846 square feet

Improvements: A 16,000 square foot, wood-frame metal clad manufacturing building with a high center bay which is served by a bridge crane and two lower side wings. Yard improvements include a fenced and graveled area and approximately 3,000 square feet of paved parking area. The exact age of

**MARKET DATA APPROACH (Continued)**

this facility is not available, although it is estimated to date from the 1950s.

Estimated Land Value: \$150,000/acre

Sale Price/Sq. Ft.: \$25.78

Sale Price/Sq. Ft.  
Excluding Land: \$11.83

Confirmed By: John Bowman, Norris, Beggs & Simpson

## MARKET DATA APPROACH (Continued)

## Plant Sale No. 6 - Gender Machine Works



Location:	1335 N.W. Northrup, Portland, Oregon.
Legal Description:	Lots 1-8, Block 214, Couch's Addition.
Date of Sale:	June 13, 1984
Documentation:	Book 1754, Page 0860
Grantor:	Portland Iron Works
Grantee:	Laurie & Associates (Gender Machine Works)
Price:	\$550,000
Terms:	Cash
Zoning:	M-2S
Land Size:	40,000 square feet
Improvements:	A 22,000 square foot, brick and mill industrial building, built in the late 1920s. Attached is an 18,000 square foot, steel frame metal clad industrial structure, built in the 1960s. At the time of purchase, the brick building had a wood floor which was subsequently removed and replaced with a new concrete floor at the

## MARKET DATA APPROACH (Continued)

buyer's expense. There is approximately 2,600 square feet of fair-to-average industrial grade office within the brick structure. There is also some second level storage area. The facility contained three bridge cranes, a 5-ton, 7.5-ton and a 10-ton, and numerous jib booms. The facility is used as a machine shop and metal fabricating space.

Sale Price/Sq. Ft.  
Gross Building Area: \$13.75

Sale Price/Sq. Ft.  
Excluding Land at  
\$7.00 per Sq. Ft.: \$ 6.75

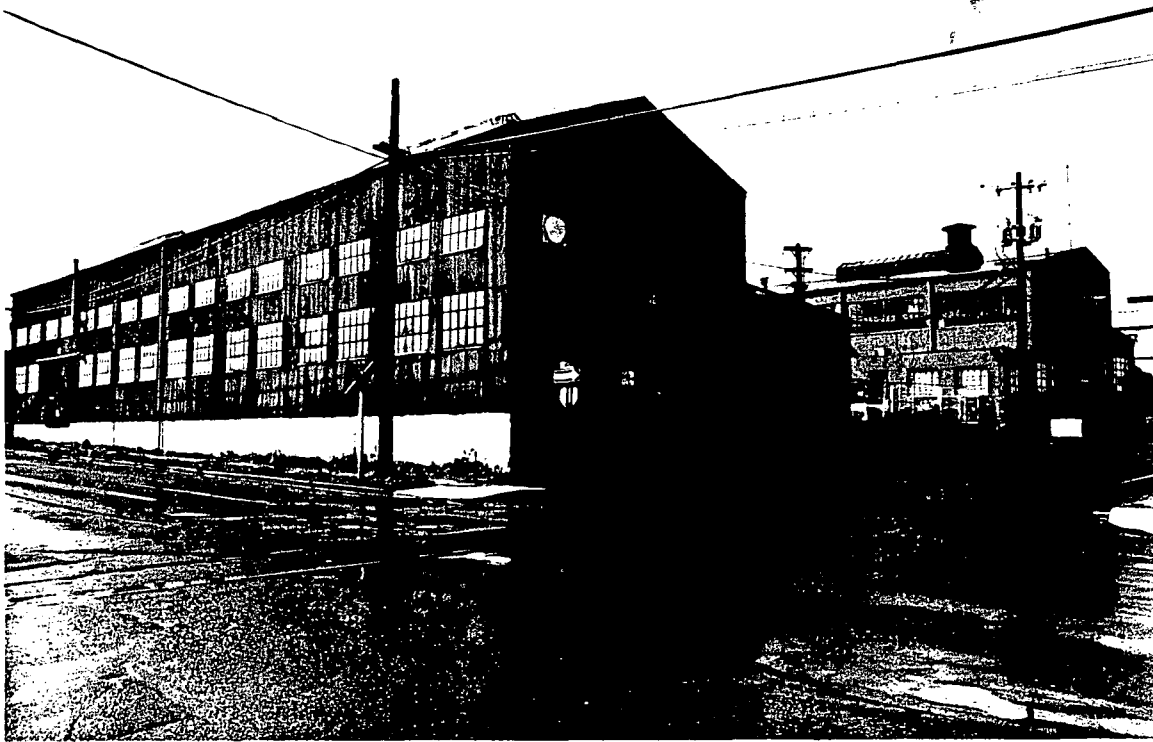
Confirmed By: Buyer

Comments: The exact square footage of the individual buildings, the size of the office space, and the size of the second level storage floor were unavailable. However, this is a full city block, and the total footprint of the improvements is 40,000 square feet.



MARKET DATA APPROACH (Continued)

Plant Sale No. 5 - Monarch Forge & Machine Works



Location:	Along the south side of N.W. York Street between N.W. 21st Avenue and N.W. 22nd Avenue, Portland, Oregon.
Legal Description:	All of Block 8 and Tax Lot #1 of Lot 1, and Lots 2-8, Block 9, Sherlock's Addition to the City of Portland, and a portion of the vacated N.W. 21st Place.
Date of Sale:	July 25, 1985
Documentation:	Book 1839, Page 571 (Warranty Deed)
Grantor:	Reliance Electric (Monarch Forge & Machine Works)
Grantee:	Expressway Developing Co.
Price:	\$465,000
Terms:	Cash
Zoning:	M-2
Land Size:	92,000 square feet

## MARKET DATA APPROACH (Continued)

Improvements: Two wood frame, metal clad high-bay manufacturing buildings of 15,500 square feet and 12,000 square feet, a metal frame, metal clad high-bay manufacturing building of 12,500 square feet, and an attached, 2,500 square foot industrial office building for a total gross building area of 42,500 square feet. Clear heights vary from 16' to 30'. The facility has heavy power and each building is served with a 10-ton bridge crane.

Sale Price/Sq. Ft.  
Gross Building Area: \$10.94

Sale Price/Sq. Ft.  
Excluding Land at  
\$4.00 per Sq. Ft.: \$ 2.28

Confirmed By: John Bowman, Norris, Beggs & Simpson

Comments: Vacant at the time of sale; primarily land value with the improvements making only a relatively small contribution to overall value.

## MARKET DATA APPROACH (Continued)

## Plant Sale No. 8 - Northwest Pipe &amp; Casing



Location:	9200 S.E. Lawnfield Road, Clackamas, Oregon.
Legal Description:	Tax Lot 1001, Clackamas County Assessor's Map 2S 2E 4D.
Date of Sale:	October 23, 1985
Documentation:	85-37857 (Warranty Deed)
Grantor:	Northwest Pipe & Casing Company
Grantee:	State of Oregon Highway Division
Price:	\$1,200,000
Terms:	Cash
Zoning:	I-3, Industrial, Clackamas County
Land Size:	11.35 acres
Improvements:	A 112,440 square feet of manufacturing and office space, built in 1968, of steel frame, metal clad construction. There is a total of 102,300 square feet of manufacturing space, 8,000 square feet of attached exterior office, plus a small freestanding wood frame office

## MARKET DATA APPROACH (Continued)

structure containing 1,600 square feet, and interior shop office of 1,080 square feet, divided up on two floors. There are four bays with widths of 42', 56' 60' and 60' and a clear height of 20' to the eave. Although the offices are sprinklered, the manufacturing space is not. Nor is it heated. Prior to the sale, the building contained three 20-ton cranes, but all cranes have been removed, and only one set of craneway rails remain.

Sale Price/Sq. Ft.: \$10.67

Estimated Land Value: \$65,000 per acre

Sale Price/Sq. Ft.  
Excluding Land: \$4.11

Confirmed By: Both the buyer and seller

Comments: The seller was distressed (bankruptcy; Chapter 11) and a spokesman stated that the property would have sold for more, had it not been for their cash requirements. A spokesman for the Highway Division stated that considering the depressed market for this type of facility, their position was that they did indeed pay fair market value. The Highway Division will be using the facility for storage and general warehouse purposes.

## MARKET DATA APPROACH (Continued)

## Plant Listing No. 9 - Gate City Steel



Location: 3865 N.W. St. Helens Road, Portland, Oregon.

Legal Description: Tax Lot 98, Section 19, T1N, R1E, County of Multnomah, State of Oregon.

Listing: Current as of January 1986.

Grantor: Schnitzer Investment Corporation

Listing Price: \$1,200,000

Terms: Negotiable

Zoning: Industrial

Land Size: 2.99 acres

Improvements: The main manufacturing building contains 57,600 square feet. The structure is steel frame with metal siding. In addition, there is a 4,500 square foot attached office. The building was constructed in 1966. There are three bays, which are 80' in width. Included in the sale price were two five-ton cranes and one ten-ton crane. Supporting yard improvements including 15,000 square feet of blacktop and 720 lineal feet of railroad spur.

**MARKET DATA APPROACH (Continued)**

Listing Price/Sq. Ft.:	\$19.32
Listing Price/Sq. Ft. Excluding Land:	\$13.06
Land Value Estimate:	\$130,000/acre
Site Coverage:	48%
Confirmed By:	Linda Wakefield, Schnitzer Investment Company.

**MARKET DATA APPROACH (Continued)****Correlation****Ship Repair Facilities**

**Comparable Plant No. 1 - Bath Iron Works, Portland, Maine.** Bath Iron Works leased from the City of Portland, Maine, a ferry landing, with no consideration for the facility. However, to upgrade the site and finger pier to accommodate the outfitting and light fabrication use, \$15 million in upgrades were required. The cost of the upgrades were accommodated through industrial revenue bonds. Retirement of the bonds is the obligation of Bath Iron Works and are expressed in the agreement in the form of rent. In addition, a floating dry dock was purchased by the State of Maine and rented to Bath \$1 per year. However, significant upgrades were required (\$15 million). Again, industrial revenue bonds were used as the vehicle for financing the upgrades and Bath was required to amortize the cost. Bath was also required to spend \$5,500,000 for equipment over the first five years of the agreement.

As can be seen by the basic terms of this facility, cost and amortization of debt was the vehicle for the base rent.

**Comparable Plant No. 2 - Campbell Industries, San Diego, California.** San Diego Unified Port District leased 14.01 acres to Campbell Industries, and the improvements upon that site belong to Campbell. In 1984, the Port prepared a cost approach appraisal of the improvements, concluding that the estimated cost less depreciation was \$3,600,000. Negotiations took place and some trade-offs were made between the Port and Campbell, and an ultimate sale price for the improvements of \$3,150,000 was concluded. Campbell owns and operates the adjacent property and some of the amenities were exchanged. The Port of San Diego will use the site for expansion of its ferry system. The improvements consisted of six buildings totaling 81,746. Improvements consisted of a modern, two-story office building and miscellaneous fabrication and storage buildings. Although on the waterfront, no dockage or wharfage was available. This facility was used for small craft repair and fabrication.

Again, reproduction cost new less depreciation was used as the basis of transfer for the improvements.

**Comparable Plant Sale No. 3 - Todd Company, San Francisco, California.** The Port of San Francisco owned the real property (land and buildings), and the lessee owned the machinery, equipment, cranes and dry docks. In 1982, a lease was entered into between Todd and the Port of San Francisco to lease 539,000 square feet of buildings, 32.87 acres of upland, and 6.38 acres of submerged tidelands. The basic terms consisted of \$1,800,000 per year for the uplands and buildings for the first five years, and \$2,040,000 for the next 25 years. In addition, Todd is to spend \$10 million in improvements for the buildings within the first five years, and \$1,500,000 in annual maintenance.

The primary indicator from this lease is that the base rent per square foot for the improvements is 28 cents, and adding the deferred maintenance is 59 cents per square foot. Discussions with appraisers and real estate brokers in the San Francisco area indicate the 59 cents is almost double normally found within fabricating facilities in the area.

## MARKET DATA APPROACH (Continued)

## (Non-Marine Facilities)

**Comparable Plant Sale No. 4 - American Hardwood** (\$20.24 per square foot of gross building area) is located along the south line of S.W. Herman Road, Tualatin, Oregon. This is the sale of a 42,000 square foot manufacturing building. It has full metal skin with no wainscoting, including only minimal low quality improved office space and lacked sewer at the time of sale. The structure is older, and exhibited a considerable degree of wear and deferred maintenance. The structure is not insulated. In addition, it is inferior in terms of clear height, and bay widths of 40'. Although locationally inferior to the subject, this property has lower site coverage (6%), which is reflected in the sale price.

**Comparable Plant Sale No. 5 - Freeman** (\$25.78 per square foot of gross building area). This smaller, 16,000 square foot wood frame, metal clad, high-bay manufacturing facility was purchased in of March 1984, for \$412,500. This is a newer facility located in the northwest industrial section of the city of Portland. Most importantly, this facility is much smaller than the subject. This facility has a high center bay and two lower side wings, which makes this building somewhat inefficient. The yard improvements consist of gravel parking and a 3,000 square foot, paved parking area. This facility is inferior to the subject.

**Comparable Plant Sale No. 6 - Gender Machine Works** (\$13.75 per square foot of gross building area). This was the sale of an entire city block improved with a 40,000 square foot manufacturing facility (22,000 square feet of 1920 brick and mill with a wood floor and 18,000 square foot steel frame, metal clad building, built in the 1960s). The sales price was \$550,000, which equates to \$13.75 per square foot of gross building area. Overall, this is considered to be an inferior property in terms of age and quality of improvements. In addition, there is no off-street parking or yard storage with the facility.

**Comparable Plant Sale No. 7 - Monarch Forge & Machine Works** (\$10.94 per square foot of gross building area). Along the south side of N.W. York Avenue, between N.W. 21st and 22nd Avenues, this property sold for \$465,000. The three high-bay manufacturing buildings totaling 42,500 square feet sold for a sales price of \$10.94 per square foot of gross building area. This sale includes two wood frame, metal clad, high-bay manufacturing buildings, and one metal frame, metal clad, high-bay manufacturing building, plus an attached 2,500 square foot industrial office building. The facility has heavy power, and each building is served by a ten-ton bridge crane. This facility is vastly inferior to the subject in terms of quality of improvements.

**Comparable Plant Sale No. 8 - Northwest Pipe & Casing Co.** (\$10.67 per square foot of gross building area). Purchased in October of 1985 for \$1,200,000, the improvements consist of 112,440 square foot manufacturing and office facility built in 1968. The structure is steel frame with a metal clad exterior. There is a total of 102,300 square feet of manufacturing space, 8,000 square feet of attached exterior office, and a small freestanding wood frame office structure containing 1,600 square feet. This facility is located in the Clackamas Industrial Park, which is 15 miles south and east of the Swan Island Industrial Park. At the time of sale the seller was distressed (bankruptcy; Chapter 11), and a spokesman stated that the property would have sold for more had it not been for the cash requirements.



## MARKET DATA APPROACH (Continued)

**Comparable Plant No. 9 - Gate City Steel** (listing price of \$19.32 per square foot of gross building area). This is the current listing price for the 62,100 square foot facility in the Guilds Lake area of northwest Portland. It has been available for sale or lease since 1982, originally at a price which was 25% higher than the current listing. The long-term vacancy and drastic reduction in price are reflective of the soft market for high-bay manufacturing space in the greater Portland metropolitan area.

**Summary**

The subject property and its proximity to the Port of Portland ship repair facility offers greater versatility than any of the other marine and non-maritime comparable properties. The indicators of market activity in the marine facilities were a function of cost. Few were for the elimination of competition. Prices paid were calculated in light of the cost to create an alternative assemblage of assets or to avoid and reduce current costs incurred in operating less satisfactory facilities. Only in the instance of the Campbell facility in San Diego did the Port acquire the facility for a change in use.

In the cost approach section of this report land value, reproduction cost new less depreciation of improvements and machinery and equipment were considered. The appropriate depreciation was weighed and a final estimate of value was concluded. Because the market demonstrates that normal processes of exchange are based upon this type of information, the estimated value by the market data approach is as found in the cost approach. Those values are:

Land	\$ 2,012,000
Improvements	8,509,700
Equipment	<u>6,481,230</u>
Total	\$17,002,930
Rounded	\$17,000,000

The local market was examined for fabricating facilities that could be compared with the subject property and an estimate of value derived. Unfortunately, all of the recent market activity was for facilities inferior to the subject. Not only were the physical facilities inferior, locations were inferior. For this reason, the overall market is not well represented. The highest price cited in the non-maritime sales was \$25.78 per square foot. If this rate were applied to the subject property, an indicated value of:

$$293,978 \text{ square feet} \times \$25.78/\text{square foot} = \$ 7,580,000$$

Note: to the above real estate the value of the machinery and equipment must be added (\$6,481,230), equaling \$14,060,000, rounded. This value conclusion represents the value of the subject property if sold for alternate use as a general purpose fabricating facility not in support of a maritime activity.

Two levels of value are found in the market data approach:

MARKET DATA APPROACH (Continued)

1. The standard of market activity among maritime-related fabricating facilities is market value of land plus reproduction cost less depreciation of the improvements. When facilities are leased or sold, this method is used as the foundation for value in exchange.
2. Facilities that are not maritime-related are sold or leased along more traditional lines than we would find in commercial real estate. Properties react to supply and demand. Proximity to external amenities (such as single point of delivery, dry docks, railheads, etc.) are not the dominant consideration.

Since the subject property is oriented toward maritime activity, and since the assignment at hand is to estimate the market value of the subject property in use and at its highest and best use, the activities found within the maritime market represent the dominant indicator and suggest that the value premium over value in exchange for value in use is warranted.

**INCOME APPROACH**

There has been some rental activity within the shipbuilding industry whereby information can be provided to give us some insight into the Northwest Marine Iron Works facility.

**Todd Facility In San Francisco**

The Port of San Francisco leased to Todd Company 539,000 square feet of buildings, 32.87 acres of upland and 6.38 acres of submerged tidelands. Todd owned whirley cranes, two floating dry docks, and approximately \$10,000,000 of equipment on site. The base rental for the land and improvements was \$1,800,000 a year for the first five years, and \$2,040,000 per year for the next 25 years. A requirement was placed upon Todd by the Port to upgrade the World War I facility and to spend \$10,000,000 in capital improvements over the lease term. This significantly increased the rent and, consequently, the rental rate. The base rental rate as compared to the square foot area of buildings equalled 28 cents per square foot, and after the costs of deferred maintenance were added to the rent, the rate was increased to 59 cents per square foot.

The Todd facility is vastly inferior to the subject in both quality of buildings and general layout of the facility. However, if the 59 cents per square foot were applied to the subject building (293,978 square feet), a monthly rental rate of \$173,447, or \$2,081,000 per year would be indicated. If vacancy and operating expense of 15% were deducted from the potential gross income, and a capitalization rate of 12% were applied to the net operating income, a value of approximately \$14,700,000 would be indicated. Adding the machinery and equipment of \$6,400,000, an indicated value of \$21,000,000 would be produced from this market information.

**Campbell Lease from the Port of San Diego**

The 1985 agreement between the Port of San Diego and Campbell provides for land rent based upon a rental rate of 65 cents per square foot per month. The subject property has 14.37 acres (625,957 square feet). Multiplying the indicated rent from the Port of San Diego times the subject's size would indicate an annual rent of \$406,872. This would equal \$1.36 per square foot per year of building area. Dividing the annual rent by 12 months equals a monthly rental rate of 11.4 cents per square foot per month. Comparing the 59 cents per square foot rent in the Todd facility to the 11.4 cents indicated in the Campbell lease, one can easily distinguish the difference in that no rent has been attributed to the buildings upon the site.

**Port of Portland (Maine) - Bath Iron Works**

In 1982, the City of Portland, Maine negotiated with Bath Iron Works to participate in the conversion of a ferry landing into a major ship repair and outfitting facility. The three acres of upland and pier were given no base rental value. The capital improvements to convert the facility were paid for by Bath in the form of rent of \$1,907,000 per year. The dry dock facilities were provided in the same manner by the State of Maine. The machinery and equipment was provided by Bath.

**INCOME APPROACH (Continued)**

The subject has similar facilities on site (fabricating) and dry dock available and provided by the Port of Portland, Oregon. The subject has the advantage of paying only when using the dry dock, and sharing costs with Dillingham and Lockheed. No rental rate can be derived from this transaction to indicate rental rates for the subject.

**Conclusion**

This appraiser has made a survey of the Portland metropolitan area as to rental rates for non-marine fabricating facilities. The rental rates found within the market were significantly below those found within the maritime market. This tends to support the conclusions found within the market data approach that in-use maritime facilities command higher rates than those facilities used for general fabrication.

This appraiser was unable to convert income data into value in that within the maritime market the properties generally are owner-occupied, or the standard of rent was based upon land value plus reproduction cost new less depreciation, and a rate of return assigned to that conclusion. This market condition was generally found within Port facilities.

The rental rates in the non-marine (general fabricating) market were usually determined by real estate brokers, appraisers or general negotiations between landlord and tenant. Because of the depressed nature of the Portland market, the rental rates vary depending upon need of the facility and location. Again, the information was inconclusive and not relied upon by this appraiser.

For the reasons stated above, this appraiser has not utilized the income approach in this appraisal.

**FINAL RECONCILIATION OF VALUE**

The purpose of this report is to estimate the value of the fee simple interest of land and improvements, as well as machinery and equipment. The value premise for real estate is the value in exchange, taking into consideration its proximity to the Port of Portland's ship building and repair facilities and its dedicated use. The value premise for equipment is the value in exchange on an in-use and installed basis.

Two approaches to value were applied in estimating market value:

Cost Approach	
Land value	\$ 2,012,000
Building and yard improvements	5,809,700
Equipment	<u>8,481,230</u>
Total (rounded)	\$17,000,000
Market Data Approach	
Marine use - Including equipment	\$17,000,000
General fabricating - Including equipment	\$14,060,000

The correlation and final estimate of value is the last step in the appraisal process. It involves weighing of the individual valuation techniques in relation to their substantiation by market and other sources of data, and reliability and technique relative to the type of property.

In this appraisal two approaches to value have been used. These approaches are discussed as follows:

**Cost Approach**

Land value can be reasonably estimated from current land sales. The subject's size was estimated from the records of the Multnomah County Assessor's office and is subject to final survey. The adjustment process gave an indicated value for the subject site of \$140,000 per acre, which should be assessed against the final acreage amount. The estimate of reproduction cost new was taken from two different sources. These sources were compared against each other to arrive at a final estimate of the reproduction cost new. The construction date of the improvements was 1943. Since that date, major remodeling took place in 1969. In 1983 major refurbishing took place within the plant. This refurbishing and remodeling modernized the facility to a degree whereby it competes with more recently constructed facilities.

Added to the conclusion found above is the estimated value of machinery and equipment.

**Market Data Approach**

Two levels of market activity were found in estimating value by this approach. The first is maritime activity whereby marine construction or repair facilities were investigated. General market activity was observed, and indications of methodology could be reviewed. The methodologies found that

## FINAL RECONCILIATION OF VALUE (Continued)

when facilities were leased or sold, the basis of transfer or rent was predicated upon the cost approach. This lent support to the conclusion found within the cost approach.

The second level of market activity was found within the general fabricating industry. Five sales of facilities traded within the last few years, and provided general indicators from that market. An inspection of those properties indicated they were generally inferior to the subject. That is, the overall quality of construction, maintenance and location were inferior to the subject. However, an indication could be derived when reducing the sale prices and prices per square foot of the facilities. The higher end of the range found was applied to the subject property and demonstrated the value of the subject should it be placed within the general fabricating field.

**Conclusion**

The value concluded by the cost approach and research of the maritime market demonstrated that the cost approach is the basis for value in exchange within that industry. For this reason, this appraiser has estimated the value of the subject property to be:

Land	\$ 2,012,000
Building and yard improvements	8,509,700
Equipment	<u>6,481,230</u>
Total (rounded)	\$17,000,000

# **ADDENDA**

**CONTINGENT CONDITIONS, LIMITING CONDITIONS  
AND SPECIAL ASSUMPTIONS  
(Unless specifically stated otherwise in this report)**

That title to the property appraised is good and marketable.

The management of the property is assumed to be competent and the ownership in responsible hands.

That the property is free and clear of any mortgage, trust deed, lien or other encumbrance.

Value reported assumes all taxes and assessments have been paid.

Value is reported in dollars on the basis of the currency prevailing on the date of appraisal.

The distribution of value between land and building applies only under the present program of utilization and is invalidated if used in making a summation appraisal.

The value premises cited in this report are considered foundational and basic to the value opinions reported herein, and the right is hereby reserved by Curtis, Slocom & Jordan, Inc. to alter, revise and/or rescind any of the value opinions should any subsequent or additional data be found, or in the event the conditions are modified to any extent.

No responsibility for legal matters is assumed and no right to expert testimony is included.

No survey has been made. Valuation is reported without regard to questions of title, boundaries, encumbrances and encroachments.

That the property is free of insect infestation, dry rot, and fungus growth. It is assumed that there are no hidden or unapparent conditions of the property, subsoil or structures which would render it more or less valuable.

This appraisal is not based on the completion of projected public or private improvements.

Information furnished by others is assumed to be true, correct and reliable. A reasonable effort has been made to verify such information; however, no responsibility for its accuracy is assumed by the appraiser.

The appraiser has no present or contemplated future interest in the property which is not specifically disclosed in this report; that neither the employment to make the appraisal nor the compensation is contingent upon the amount of the valuation reported; and that to the best of his knowledge and belief, all statements and opinions in this report are true and correct and no important relevant facts withheld.

Neither all nor any part of the contents of this report shall be conveyed to the public through advertising, public relations, news, sales or other media without the written consent and approval of the author, particularly as to valuation conclusions, or any reference to the American Institute of Real Estate Appraisers or to the MAI designation.



**GERALD L. CURTIS**

**General Experience**

1974	Curtis, Slocom & Jordan, Inc.; Principal
1963	Real Estate Appraiser

**Professional Education**

**American Institute of Real Estate Appraisers Courses Taken:**

1984		Industrial Valuation
1984		Standards of Professional Practice
1971	Course 6	Techniques of Capitalization
1971	Course 2	Real Estate Appraisal Problems
1969	Course 8	Residential Appraising
1969	Course 1	Introduction to Real Estate Appraising

**Society of Real Estate Appraisers Courses Taken:**

1972	Special Application of Appraisal Techniques
1968	Introduction to Real Estate Appraising

**Qualified Instructor**

**American Institute of Real Estate Appraisers:**

1978	Course II	Portland State University
1976	Course 1-B	Portland State University

**Society of Real Estate Appraisers:**

1981	Course 201	Lane Community College
1980	Course 201	Lewis & Clark College
1978	Course 201	Portland State University
1977	Course 201	Boise State University
1976	Course 201	Portland State University
1976	Course 201	Chemeketa Community College
1974	Course 201	Portland State University
1974	Course 101	University of Nebraska
1971	Course 101	Portland State University

<b>Licenses</b>	<b>Real Estate Broker, State of Oregon</b>
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<b>Court Experience</b>	<b>Qualified as Expert Witness</b>
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**Professional Organizations**

MAI	Member of the Appraisal Institute
	American Institute of Real Estate Appraisers
	Past President of Oregon Chapter #14
NAR	National Association of Realtors
OAR	Oregon Association of Realtors; Board of Directors, 1982
	Portland Board of Realtors

**GERALD L. CURTIS (Continued)**

**Certification**

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAIs and RMs who meet the minimum standards of this program are awarded periodic educational certification. I am certified under this program through December 15, 1986.

**Representative Clients Served**

**Government Agencies**

Army Corps of Engineers  
Clackamas County, Oregon  
General Services Administration  
United States Post Office  
Portland Development Commission

State of Oregon  
U.S. Attorney's Office  
Department of Veterans' Affairs  
Oregon State Highway Department  
City of Portland

**Lending Institutions**

American Diversified Savings Bank  
Amfac Mortgage Corporation  
Bank of California  
Benj. Franklin Savings & Loan Assoc.  
Columbia Mortgage Company  
Crater National Bank  
Equitable Savings & Loan  
Farwest Federal Savings & Loan  
First Bank Mortgage Company  
First Hawaiian Bank  
First Interstate Bank of Oregon  
Willamette Savings & Loan  
Merrill Lynch

First Federal Savings  
First State Bank of Oregon  
Fred Meyer Savings & Loan  
National Mortgage Company  
The Oregon Bank  
Pacific First Federal Savings & Loan  
Pacific Mutual Life  
Prudential Life Insurance Company  
Standard Insurance Company  
Travelers Insurance Company  
Wells Fargo Bank  
Foster Marshall Realty

**Private Companies**

Capital Consultants, Inc.  
Employers Insurance Company  
General Foods Corporation  
Convoy Company  
Hayden Island, Inc.  
Portland Orthopedic Clinic  
Owens Illinois, Inc.  
Northwest Marine Iron Works  
First Farwest Corporation  
Winmar Corporation  
Sivers Construction Company  
Coldwell Banker  
The Landing Corporation  
Lloyd Corporation

Kentucky Fried Chicken  
Gilmore Steel Corporation  
Union Pacific Railroad  
Southern Pacific Railroad  
Centennial Mills  
Canteen Company of Oregon  
Schnitzer Investment Company  
Pope & Talbot, Inc.  
ZRZ Corporation  
Crown Zellerbach  
Pacific Realty Associates  
Cushman & Wakefield of Oregon, Inc.  
Buttes Gas & Oil

**RICHARD A. KAUFMAN**

**Career Experience**

1984           Curtis, MacKenzie & Slocom, Inc.;  
                  Industrial Division Manager  
1970-1984     American Appraisal Associates, Inc.  
                  Vice President and Manager of the General Appraisal  
                  Company (Division), Portland, Oregon  
1976           Potlatch Corporation, Lewiston, Idaho; Fixed Asset Auditor  
1968-1970     Freightliner Corporation, Portland, Oregon  
                  Industrial Engineer

**Education**

1980-1984     American Society of Appraisers International Annual  
                  Conferences  
                  Machinery & Equipment and Business Valuation Sessions  
1976-1984     Oregon Department of Revenue  
                  Industrial Appraisal Seminars  
                  Lecturer 1977, 1981, 1984  
1974           Course 1A - American Institute of Real Estate Appraisers  
1966           Oregon State University, Bachelor of Science Degree  
                  School of Engineering

**Professional Affiliations and Licenses**

Licensed Oregon Real Estate Broker - Since August, 1977  
Currently licensed Designated Appraiser  
Through September 30, 1985  
American Society of Appraisers  
Regional Governor - Pacific Northwest  
Past President, Portland Chapter  
Senior Member designated in Machinery and Equipment  
discipline since 1976

**Certification**

The American Society of Appraisers conducts a voluntary program of periodic recertification for its designated Senior members. The criteria for the recertification includes participation in continuing education programs, instructional duties in appraisal courses, authorship of literary contributions to the profession, and organizational contributions to the society such as serving as an elected chapter or national officer. I am recertified under this program through 1989.

**Court Experience**

Circuit Court, State of Oregon  
Superior Court, State of Washington  
Special Tribunals  
Boards of Equalization  
Department of Revenue

CERTIFICATE OF APPRAISAL

The undersigned does hereby certify as follows:

I, Gerald L. Curtis, have inspected the property.

I have no present or contemplated future interest in the real estate that is the subject of this appraisal report.

I have no personal interest or bias with respect to the subject matter of this appraisal report or the parties involved.

To the best of my knowledge and belief, the statements of fact contained in this appraisal report, upon which the analysis, opinions and conclusions expressed herein are based, are true and correct.

This appraisal report sets forth all of the limiting conditions (imposed by the terms of my assignment or by the undersigned) affecting the analysis, opinions and conclusions contained in this report.

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAIs and RMs who meet the minimum standards of this program are awarded periodic educational Certification. I am currently certified under this program.

This appraisal report has been made in conformity with and is subject to the requirements of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers of the National Association of Realtors and the signator accepts responsibility for the report.

One (or more) of the signatories of this appraisal report is a member (or candidate) of the American Institute of Real Estate Appraisers of the National Association of Realtors. The Bylaws and Regulations of the Institute require each member or candidate to control the use and distribution of each appraisal report signed by such member or candidate. Therefore, except as hereinafter provided, the party for whom this appraisal report was prepared may distribute copies of this appraisal report, in its **entirety**, to such third parties as may be selected by the party for whom this appraisal report was prepared. However, **portions of this appraisal report shall not be given to third parties without prior written consent** of the signatories of this appraisal report. Further, **neither all nor any part of this appraisal report shall be disseminated to the general public by the use of advertising media, public relations media, news media, sales media or other media for public communication without the prior written consent of the signatories of this appraisal report.**

CERTIFICATE OF APPRAISAL (Continued)

No one other than the undersigned prepared the analysis, conclusions, and opinions concerning real estate that are set forth in this appraisal report.

The real property which is the subject of this appraisal report was valued as of March 20, 1986.



Gerald L. Curtis, MAI  
Real Estate Appraiser

# TOP PORTLAND AREA FEDERAL CONTRACTORS (Part 1)

Ranked by total value of contracts awarded for fiscal year 1985*						
Rank	Business	Total value of contracts awarded (\$00)	Total number of federal contracts	Departments contracted with	Products/services delivered	Principal place of performance
1.	Freightliner Corp. P.O. Box 3848 Portland, Ore. 97207	\$34,125	7	Defense	Earth moving and excavating equipment	Hampton, Va.; Portland, Ore.
2.	Northwest Marine Iron Works P.O. Box 3109 Portland, Ore. 97208	\$34,111	48	Defense, Transportation	Maintenance and repair of ships and small craft	Portland, Ore.
3.	Barco & Associates Inc. 820 S.W. Sixth Ave. Portland, Ore. 97204	\$14,062	26	Agriculture, Commerce, Defense, Labor	Management support services	Portland, Ore.; Palmdale, Calif.
4.	Radcliff International Inc. P.O. Box 3320 Portland, Ore. 97207	\$9,408	7	Defense	Construction, dredging operations	Imperial Beach, Calif.; Kelso, Wash.
5.	Peter Kiewit Sons Inc. P.O. Box 1708 Vancouver, Wash. 98661	\$7,273	2	Defense	Construction	Berkeley Point, Hawaii
6.	Donald M. Drake Co. 1740 N.W. Flanders St. Portland, Ore. 97209	\$5,608	7	Defense, Veterans Administration	Construction	Fairchild Air Force Base, Washington; Portland, Ore.
7.	Western Pacific Dredging Co. P.O. Box 3320 Portland, Ore. 97208	\$5,044	3	Defense	Maintenance and dredging operations	Ventura, Calif.
8.	Oregon Iron Works Inc. 9700 S.E. Lafayette Road Clackamas, Ore. 97015	\$4,251	6	Defense	Pontoons and floating docks, miscellaneous items	Clackamas, Ore.
9.	Northwest Regional Educational Laboratory 820 S.W. Sixth Ave. Portland, Ore. 97204	\$4,095	2	Education	Educational research and development	Portland, Ore.
10.	Grady Harper & Carlson Inc. 2845 N.E. Maple Portland, Ore. 97211	\$4,093	2	Defense	Construction	Portland, Ore.
11.	Port of Portland P.O. Box 3529 Portland, Ore. 97208	\$3,862	7	Defense, General Services, Administration	Maintenance and dredging, lease-rent of office buildings	Portland, Ore.; Long Beach, Calif.
12.	Northwest Packing Co. P.O. Box 30 Vancouver, Wash. 98661	\$3,633	14	Agriculture, Defense, Veterans Administration	Fruits and vegetables	Vancouver, Wash.; Lawton, Mich.
13.	State of Oregon P.O. Box 3503 Portland, Ore. 97207	\$3,626	10	Defense	Wildlife management	Trail, Ore.; Bonneville, Ore.
14.	Precision Wood Products Inc. P.O. Box 529 Vancouver, Wash. 98660	\$3,420	13	Defense	Miscellaneous materials handling equipment	Chesham, Wash.; Vancouver, Wash.
15.	Analis Foods Inc. P.O. Box 23564 Portland, Ore. 97223	\$3,404	6	Agriculture, Defense	Fruits and vegetables	Cornell, Wash.; Portland, Ore.
16.	Buckeye Pacific Corp. P.O. Box 188 Portland, Ore. 97207	\$3,096	69	Defense	Plywood and veneer	Various
17.	Westinghouse Electric Corp. 6801 S.W. Meadum Ave. Portland, Ore. 97201	\$2,866	7	Defense	Generators and generator sets	East Pittsburgh, Pa.
18.	F.J.E. Ward Inc. 2000 E. Columbia Way Vancouver, Wash. 98661	\$2,580	2	Transportation	Construct highways, roads, streets and bridges	Seward, Alaska
19.	Dillingham Corp. 6555 N. Channel Ave. Portland, Ore. 97217	\$2,166	5	Defense	Maintenance and repair of ships and small craft	Portland, Ore.
20.	Kaiser Foundation Health Plan 3800 N. Interstate Ave. Portland, Ore. 97227	\$1,861	12	Defense	General health care	Portland, Ore.
21.	Tranaco Industrial Inc. P.O. Box 20429 Portland, Ore. 97230	\$1,874	6	Defense	Maintenance and repair of miscellaneous equipment	Portland, Ore.
22.	Copenhagen Utilities and Construction Inc. P.O. Box 429 Clackamas, Ore. 97015	\$1,800	7	Agriculture, Interior, Veterans Administration	Construction	Washington, Oregon
23.	Crown Zellerbach Corp. P.O. Box 17128 Portland, Ore. 97207	\$1,794	22	Defense, Treasury, General Services, Administration	Stationery and record forms, paper and paperboard	Portland, Ore.
24.	North Forest Industries P.O. Box 25367 Portland, Ore. 97202	\$1,426	31	Defense	Plywood and veneer	Various
25.	North Pacific Cannery and Packers Transportation Division P.O. Box 3503 Portland, Ore. 97207	\$1,380	8	Agriculture, Veterans Administration	Fruits and vegetables	Salem, Ore.; Stayton, Ore.

"THE MARKET"

KOMINERS, FORT, SCHLEFER & BOYER

1401 NEW YORK AVENUE, NORTHWEST  
WASHINGTON, D.C. 20005

TELEPHONE (202) 467-5900  
TELEX 904145 (MARLAW WASH)  
TELECOPIER (202) 783-6898  
CABLE "MARLAW"

PETER FRIEDMANN

TO: Oregon Shipyard Interests

FROM: Peter Friedmann

SUBJECT: Economic Impact of Nimitz Battlegroup

The Maritime Alliance of the Pacific Northwest (based in Seattle) is undertaking an analysis of the economic benefit of locating the Nimitz battlegroup in Everett, Washington. The results are as follows:

<u>Vessels</u>	<u>Annual Value of Contracts</u> <sup>1/</sup>
1. Nimitz aircraft carrier	\$2 million <sup>2/</sup>
2. Guided missile cruisers (2)	\$1.4 million
3. Other vessels (10)	
a. Destroyers (2)	
b. Guided missile destroyers (2)	
c. Guided missile frigates (6)	
d. Total SRA's/PMA's for a, b, and c	\$6.75 million
e. Total regular overhauls for a, b, c (average 2.5 overhauls annually at \$15 million each)	\$37.5 million
4. TOTAL:	\$47.65 million

<sup>1/</sup> These figures are very conservative, since they are based primarily on the recent history of private sector contract awards in San Diego, and do not include "growth" which will make the total significantly higher.

<sup>2/</sup> Puget Sound Naval Shipyard, Bremerton will likely do the overhaul work on the Nimitz and Guided Missile Cruisers, while SRA/PMA work can be done by private yards.

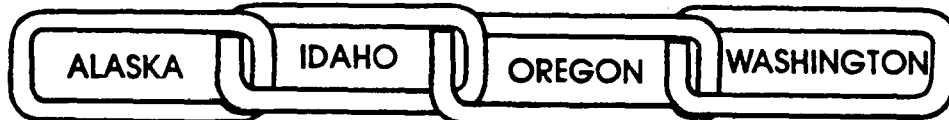
NWMAR133730



It is interesting to note that the Regional Contracting Department at the Naval Supply Center, Puget Sound, has been imposing a "two-hour driving time from Supships Seattle" restriction on bidding for service and maintenance, thus eliminating a number of Portland companies. This inconsistency with the recently announced expansion of the Puget Sound homeport area is being identified to the Navy and our friends on Capitol Hill.

Finally, attached is a letter recently sent to Washington State Governor Booth Gardner by the Maritime Alliance of the Pacific Northwest. Please notice the marked paragraphs which discuss very specifically the expansion of the Navy homeport area, and the Alliance's support for this development.

# MARITIME ALLIANCE OF THE PACIFIC NORTHWEST



July 24, 1986

The Honorable Booth Gardner  
Governor of the State of Washington  
Executive Department  
Legislative Building  
Olympia, Washington 98504

Dear Governor Gardner:

I want to reiterate our telephoned commendation July 11 and sincere thanks for your efforts in support of Homeporting. Your public reaffirmation that day in Everett of your commitment to the Everett Homeport, and continuing cooperation with the U.S. Navy and Washington's Congressional delegation, and intent to work with the State Legislature to obtain State funding for the Everett Homeport is extremely significant.

Your comments neutralized perceptions that our State was not committed to Homeporting, and definitely buoyed the broad base of Homeport proponents from throughout this region.

I know your schedule is extremely busy, and on behalf of the Maritime Alliance, I thank you, Governor, for taking the time to again emphasize your support of Homeporting.

I also have some good news to convey to you on the same subject. Secretary of the Navy, John Lehman, and Oregon's Senator Mark Hatfield, met quite recently. The reported outcome of their meeting is that Oregon shipyards will be eligible for the first time to bid on short term (six months' duration or less) Navy overhaul contracts for vessels homeported on Puget Sound. (Copy of news article enclosed.)

Whereas only two of Oregon's U.S. Representatives voted in favor of Homeporting earlier this summer, it is now assumed that Senator Hatfield's support has been well reinforced by this prospect of more work for Oregon yards, subcontractors and workforce.

The Alliance welcomes this. The maritime industry's unwritten motto is: "It's the ship that pays the bill". As I've explained in my previous letters to your office, Washington's maritime industry, as well as Oregon's, Alaska's and Idaho's, is beset with severe economic problems. Therefore, if the announced change in Naval policy will help get the Nimitz task force to the Pacific Northwest, we applaud it wholeheartedly. Our industry may compete within its region, but first it needs the ships over which to compete. Besides, it is the competitors from Southern California, the Gulf, East Coast and foreign ports who are our true competition.

(206) 932-1800

P.O. BOX 46409 • SEATTLE, WA 98126

NWMAR133732

Governor Booth Gardner  
July 24, 1986 - Page Two

In addition, we can now likely count on many Oregonians to join forces with Washington proponents to work in support of Homeporting.

The Alliance has been extremely active in energizing a grass roots lobby for strategic Homeporting. We earlier sent you a copy of our "action pack", compiled after a meeting with Senators Slade Gorton and Jake Garn. Feedback from many recipients is encouraging. An increasing number of individuals from Labor Unions, business, heavy industry, financial institutions and large corporations are engaged in lobbying for Senate support of Homeporting, with emphasis on its importance to the entire nation's defense.

There is a profound sense of unity amongst the business, labor and industry proponents, and we certainly look to you, Governor, as having assumed a key role in leading the campaign to bring the Navy to Everett.

Our Alliance delegation would still like to meet with you to discuss our and related industry's situation as it affects the State of Washington. And all members and associates stand ready to help you in your efforts to support strategic Homeporting. Please let us know how we may be of assistance to you in this important endeavor, by calling me or Alliance coordinator Jan Smith at our Seattle business office, weekdays, 932-1800.

Again, thank you for your time, your help, and your understanding.

Yours truly,

Gwen Fraser  
Chairman

enclosures


GF:js

NWMAR133733

Seattle Post-Intelligencer, Tuesday, August 26, 1986

# **Navy plans major buildup in the North Pacific**

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## ***Recently Retired Navy Numbers Man Speaks Out . . .***

# **“We Need 650 Ships in the U.S. Merchant Marine”**

*PREPARED STATEMENT OF  
CAPT. ROBERT W. KESTELOOT, USN, (RET.)  
VICE CHAIRMAN, TRANSPORTATION INSTITUTE*

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## MSC Wants More In Ready Reserve Fleet

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Port of Portland

Portland Ship Repair Yard

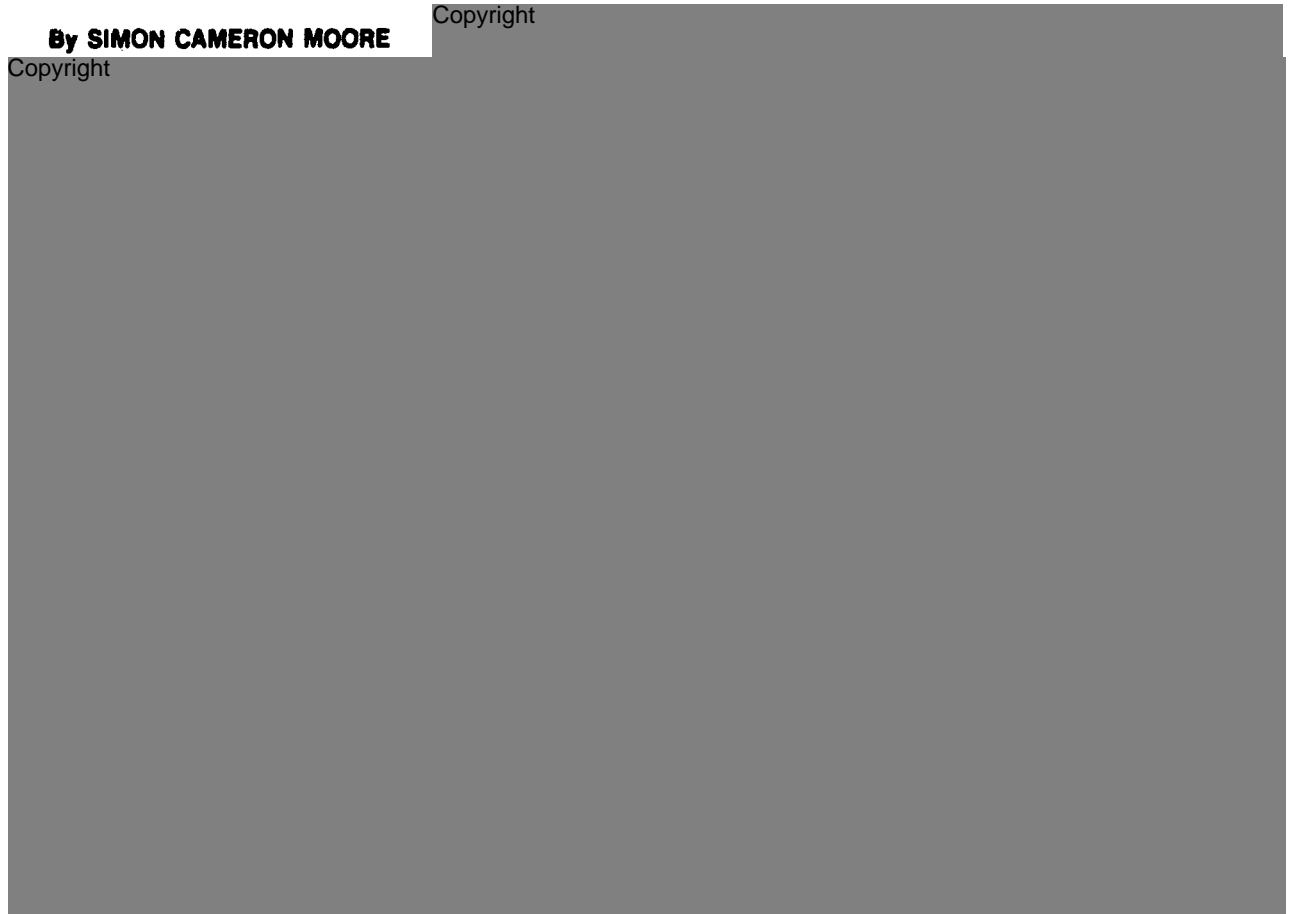
# Tanker Demand May Rise

UK Consultant Foresees Refined Oil Trade Booming

By SIMON CAMERON MOORE

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## Marad OKs Sale Of Lykes Ships

Journal of Commerce 31PM

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Port of Portland

Portland Ship Repair Yard

Friday, November 7, 1986

## Asian Firms Join Bidding On Alaska Oil

By A. E. CULLISON

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Monday, November 10, 1986

## Firms Sought To Handle Reserve Ships

By Journal of Commerce Staff

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Port of Portland

Portland Ship Repair Yard

NWMAR133738



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THE JOURNAL OF COMMERCE, Friday, July 25, 1986

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# Navy Opens Door To Overhaul Jobs

Portland Shipyards Can Bid  
On Short-Term Contracts

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# COMPETITION FOR SHIP OVERHAULS

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"THE COMPANY"



COPY

*Commander in Chief  
United States Pacific Fleet*

22 August 1986


Dear Mr. Beall,

Thank you for mailing me the copy of the Navy Edition of "Portside." Portland's support for, and welcome to, the Navy has been extraordinary and especially pleasing to me. As the Navy's senior representative to the '86 Rose Festival, I was able to sample some of Portland's excellent hospitality first hand.

Reports from the ships in overhaul at Northwest Marine Iron Works indicate that they have received royal treatment from Portland as well as a first-class overhaul.

Thank you for your thoughtfulness and support.

Sincerely,

  
J. A. LYONS JR.  
Admiral, U.S. Navy

Mr. Jim Beall  
Attorney at Law  
Garvey, Schubert, Adams & Baker  
1211 S.W. Fifth Avenue, Suite 2650  
Portland, Oregon 97204

GARVEY, SCHUBERT, ADAMS  
& BARER, PORTLAND

AUG 26 1986

NWMAR133742

Herman —  
Sorry I missed  
your game, but  
Charlie said you  
finally pitched  
"decent". Here's  
a hat for you —  
"Chuck" said "Black"  
would be appropriate.  
Take care,  
John Colombo

## Ship repair yard tries new tack, wins new jobs

By DICK MONTGOMERY

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Copyright

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# Revamped ship leaves

Photo on Page B1

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## Judge ref

By CARMEL FINLEY  
Correspondent, The Oregonian

Copyright

## Rape victim still silent

Copyright

Copyright



## The Liability Insurance Crisis

# Now *that's* a window o

Copyright

## Coast Guard job doesn't tell all

Copyright



### NOTEBOOK

Steve Woodward

ished out of the  
Copyright

Copyright

foot container

# Portland wins key fight to land ship work

By JAMES C. FLANIGAN

of The Oregonian staff

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Port of Portland

Portland Ship Repair Yard



THE JOURNAL OF COMMERCE, Tuesday, December 17, 1985

TODD SHIPYARDS CORPORATION

# Portland Yards Win Naval Work

THE JOURNAL OF COMMERCE,  
Wednesday, December 18, 1985

## Trading Heavy In Sea-Land Stock

By JOHN DAVIES

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# Ship Industry Faults Totem Plan for Lykes

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By ROBERT F. MORISON

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# Northwest Marine unloads Electrical Construction Co.

By JOHN M. FILLAUME

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Wednesday, this month

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# Sale of wiring firm improves management focus

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[Redacted]

## Ashton-Tate eyes Pearlsoft

By MICHAEL A. ANDERSON

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[Redacted]

...and its Boise, Idaho-based approximately 140 workers.

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[Redacted]

pair of deckhouse structural damage (Item 107) and the modifications to the ship's spaces and voids scheduled for the upcoming availability period are well within NMIW's current level of expertise.

c. Mechanical, Fluid and Electric Equipment Change Out and System Integration

NMIW currently has in-house both the management and craft technical expertise required to accomplish the mechanical, fluid, and electric equipment change out and system integration tasks specified by the USNS OBSERVATION ISLAND (T-AGM 23) work scope. Our highly experienced shop and shipboard machinery, pipe and electrical craft teams are familiar with the removal, repair/modification, reinstallation and test/check out operations required by overhaul and conversion projects. Their experience and training ensure appropriate safety measures are implemented, protection of equipment and systems is effected and maintained, and that systems are properly tested and checked prior to release for operation. The overhaul, repair and/or modifications to the USNS OBSERVATION ISLAND's (T-AGM 23) boiler feed pumps, demineralized cooling water pumps, HP and LP turbine couplings, boilers, system valves, Sponsor Power Improvements, other power systems and dumbwaiter/elevator equipment are consistent with work presently being expertly accomplished at our facility.

d. Habitability Support Systems (Mechanical, Electrical, HVAC, Fluid)

As outlines in section "c" above, the NMIW team has continuously demonstrated the technical expertise required to accomplish habitability conversions and installations. We are currently performing high quality habitability support system and finish work that is nearly identical to that defined by the USNS OBSERVATION

ISLAND (T-AGM 23) specifications. We are thoroughly familiar with the production processes and requirements for mechanical, electrical, HVAC and fluid system ripout, modifications, installations and tests associated with habitability upgrades.

e. Exterior Weather Deck Preservations

Current competence in this area is provided by our trained cleaning and coating personnel. This team is demonstrating their expertise on a daily basis on several projects presently at the NMIW facility. Proper surface preparation, including degreasing and mechanical cleaning, and the controlled application of paint coatings are considered critical to providing long lasting high quality surface preservation. NMIW is familiar with the C & E Corrosion Control Procedure No. 0200-000 dated September 1985 and will comply with its requirements where specified in USNS OBSERVATION ISLAND (T-AGM 23) work scope.

f. Blasting and Coating of Tanks and Voids

NMIW maintains a highly qualified sandblast crew that is active on virtually every major repair and/or conversion project we handle. Together with our coating personnel (described in section "e" above) we have the in-house technical expertise for meeting abrasive blasting requirements in accordance with the Steel Structures Painting council (SSPC) Painting Manual and the proper application of a wide range of high performance coating systems in tanks/voids.

Related experience/competence

The following are examples of large ship conversion and repair projects that we have accomplished which required technical competence similar to that required for this availability of the USNS OBSERVATION ISLAND (T-AGM 23). It should be noted that our existing key man-

agers and craftsmen worked these jobs. Over the past five years we have averaged 255 ship construction, conversion or repair jobs per year.

1. **Overhaul of the USS CUSHING (DD-985) (29 Sep 85 - 30 Jul 86)**

NMIW completed this large and complex project on 25 July 86, five days prior to the contract delivery date. Key work items included:

- a. Major structural prefabrication and shipboard installations for LAMPS MK III helicopter handling system and OUTBOARD electronic warfare facility.
- b. Extensive overhaul and repair of propulsion, auxiliary and habitability equipment and associated systems.
- c. Large conversion and outfitting of existing shipboard areas into crew berthing and habitability spaces.
- d. Abrasive blasting and coating of the fuel oil and JP5 tanks, as well as most of the ship's weather areas.

2. **Overhaul of the USS DULUTH (LPD-6) (30 Sep 85 - 30 Jun 86)**

This major overhaul was successfully completed on 23 June 86, seven days prior to the contract delivery date. Areas of key effort were:

- a. Overhaul and repair of ship's boilers, propulsion and auxiliary machinery and systems.
- b. Repair and renewal of the ship's mission critical ballast and deballast systems.
- c. Blasting and coating of the ship's underwater hull, weather areas, and tanks.

3. **Conversion and Repair of USNS OBSERVATION ISLAND (T-AGM 23) (07 Jan 85 - 18 Mar 85)**

NMIW completed this challenging project on schedule. Significant production effort included:

- a. Prefabrication, assembly, installation and outfitting of a new sponsor deckhouse.
- b. Fabrication and installation of new cantilevered bridge wings.
- c. X-band radar installations.
- d. Installation of two new distilling plants.
- e. Extensive habitability upgrades.

4. **Overhaul and Conversion of USNS OBSERVATION ISLAND (T-AGM 23) (6 Jan 84 - 2 JUL 84)**

Due to the critical nature of the ship's mission, the project was assigned a DX-BRICKBAT 01/FAD 1 priority.

In view of the size and complexity of the project the top concern of the Government was the ability of any contractor to complete the job prior to the CNO completion date of 7 JUL 84. We met or exceeded all milestones including undocking 5 days early. We completed this project on 2 JUL 84 which is 5 days early. The key work items included:

- a. Change out of 4 - 500 KW SSTG sets with 3 - 2000 KW SSTGs taken from decommissioned fleet ballistic missile submarines (SSBN). This change out included installation of all new load and distribution centers, controls and cables, and supporting auxiliary equipment.
- b. Installation of major new superstructure sections, barbettes, and supporting systems for a 90 ton 30 foot diameter dish X-band radar antenna. This included outfitting all new power and equipment rooms with associated equipment and support systems, and the align-

- ment of the X-band barrette to the ship's reference planes.
- c. Installation of a major habitability system including a new ship's reefer system, (both equipment and freeze and chill rooms) and many new state-rooms and cabins.
- d. Reballasting of the ship and conducting inclining experiment.
- e. Accomplishing a major overhaul package involving major repairs to pumps and motors, turbines, shafting and shaft alignment, hydraulic systems, ship's HVAC system, and tank repairs and recoating.
- f. Installation of 52 tons of reinforcing steel to strengthen the forward deck house.
- g. Total removal/reinsulation of all thermal insulation (asbestos) in engine room.

5. **Conversion of the USS SHERBORNE to the USNS RANGE SENTINEL**

Prefabbed 100% new superstructure, deck houses and radar platforms. Installed superstructure, deck house, radar platforms, all supporting structural members and all new equipment foundations. Changed out and installed 95% new ship mechanical, fluid, habitability, and electrical equipment and systems. This change out included installation of a totally new electrical power system consisting of five new 1,000 KW SSTGs and their auxiliary systems, and new power distribution centers and switchboards. It also included installing HVAC and control systems for the new radar and electronic equipments and rooms and for a completely new ship's habitability suite. This modification essentially was a reoutfitting of the ship from the ground up. We also installed a totally new system of computers, X-band

radars, communications systems, and control/monitor panels for missile tracking systems.

6. **Construction of Barges ALASKA and OREGON (400' long x 80' wide x 25' deep)**

Prefabbed and assembled in shop then transferred to drydock in 20' long x 80' wide sections of the barges. Fabricated and installed onboard a full length deck house. Fabricated and installed a large complex conveyer system to handle the cargo of urea. Installed ballast system, hydraulic system for end doors, and all electrical systems, pumps and piping. Installed diesel generator systems.

7. **Conversion of USS CHEPATCHET to the SS OCEAN ENERGY CONVERTER**

Prefabbed large foundations for large volume pumps and heat exchangers and a large diameter "moon pool" structure for direct sea access. Converted cargo tanks 2, 3, and 4 to a large machinery space for energy conversion equipment. Manufactured and installed "moon pool" and gimbal assembly, three 72" pumps for pumping sea water from a depth of 2,000 ft., installed 500 ft. of 72" and 60" piping. Prefabbed and installed control house and monitoring house.

8. **Conversion of SS SISTER KATINGO to SS CORNUCOPIA**

Prefabbed and installed 100% new superstructure. Removed old vessel forebody (oil tanker) and installed new forebody (anhydrous ammonia carrier). Fabricated new auxiliary machinery space in after body. Fabricated all new piping systems in superstructure and in machinery spaces to handle anhydrous ammonia. Installed (2) 1,500 KW SSTGs with all new switchboards and control centers. Installed new diesel generators and switchboards. Installed new living and messing

quarters with new supporting systems including sewage treatment system.

9. **Conversion of a bulk cargo carrier to SS DEEPSEA MINER**

Prefabbed main deck structures and foundations and derrick for large mining equipment and gimbal system. Fabricated and installed mining derrick, geodesic dome, dredge pipe stowage racks and a container van for auxiliary diesel generators. Converted two (2) wing tanks into hydraulic spaces. Installed hydraulic machinery capable of dredging at a depth of 18,000 ft. Installed large capacity 1,500 psi air systems and 6 new diesel generators with electrical gear to support mining operations. Expanded all messing and berthing to handle mining crew personnel.

10. **Inert gas systems (IGS) installations on eleven Alaskan tankers**

Prefabricated IGS deck houses with all foundations, machinery, and equipment preinstalled. Prefabbed all IGS distribution piping systems. Installed all systems and IGS houses and integrated into all ship systems.

11. **Overhaul of USS HENRY B. WILSON (DDG-7)**

Removed 7 old HVAC systems and installed 3 new 125 ton HVAC systems with all associated piping, electrical, ventilation ducting, foundations, control systems and support piping, tubing and panels. Removed for subcontractor overhaul and reinstalled all radars, gun and missile directors, missile and rocket launchers, gun mounts, computers, and communications and satellite equipment. Installed all new tracking and search radar repeaters and a new electronic warfare system, modified and upgraded with new equipment crew berthing, galleys and laundry.

12. **Overhaul of four FF-1052 class frigates**

Installed new 75 ton HVAC system. Removed for subcontractor repair and reinstalled all electronics, weapons and communications equipments, including class alterations and upgrades on many systems. Modified sonar domes for rubber windows which required extensive steel work with HY80 steel. Installed sewage treatment systems. Modified and upgraded crew berthing, galleys, messing and laundry spaces.

## **Part 2: Management Capability**

NMIW's most valuable asset is its strong management group. We have assigned our most capable and experienced people to this group. Participation in a continuing management training and education program further enhances their qualifications. We have assembled from this group a strong and dedicated management team to manage this overhaul. Their past achievements and dedication assure a successful and timely overhaul.

### **2.1. Organizational Approach**

#### **2.1.1 Organizational Structure**

NMIW is a marine company organized and managed primarily for the purpose of ship repair, conversion and construction. This organization has successfully served this purpose for many years. It has grown and evolved to meet the dynamic needs of large, complex government (Navy, MSC, and Coast Guard) and commercial ship contracts.

The present structure of the company is shown by EXHIBIT 2.1.A, Organization Chart. The organization is formed along functional lines. For major projects, matrix project organizations are formed from our highly experienced and trained pool of personnel. These project organizations are then dedicated to their assigned project until successful completion is accomplished. Remaining company personnel serve to support the project to successful completion. EXHIBIT 2.1.A shows the interrelationship between the project organization for these overhauls and the company's functional organization.

We have never required nor used the services of management subcontractors for the many large, complex government and civilian ship overhauls we have accomplished. We do not plan to use a management subcontractor for this project. However, for combat systems overhaul and testing we will use our Master Ordnance Repair (MOR) subcontractor to supervise the combat systems team. Our experienced project team assigned to this project is fully dedicated to its success. We anticipate no changes in their assignments. Individual qualification briefs for the personnel shown on EXHIBIT 2.1.A are included in Section 2.2.

#### **2.1.2 Project Organization**

The management and supervisory team that will conduct the overhaul will be the same nucleus of people who successfully accomplished the recent two overhauls and conversions of the USNS OBSERVATION ISLAND. They have successfully accomplished our most recent long term projects. The last two projects, USS STEIN (FF-1065) and USS HENRY B. WILSON (DDG-7), were of twelve month duration and were completed well ahead of their originally scheduled completion dates. This team is made up entirely of in-house personnel except for the MOR Manager from our subcontractor, PacOrd, who will serve as a member of our management team for combat systems overhaul and testing. They have performed a "second phase" upgrading on the USNS OBSERVATION ISLAND. That contract completed in mid-March 1985. The strength of this existing team lies in its cooperative effort to achieve the common objective of providing a quality and timely product with optimum efficiency and cost effectiveness. Their strength as a team is initiated during the writing of this proposal, as the authors are primarily the same group of management people we will use to manage these overhauls. Key personnel cited who were not part of the writing team have reviewed the plan and agreed that the proposed plans can be successfully implemented as written. We thereby gained their commitment towards our common objective.

We have additional management and supervisory people available who have experience in Navy overhauls on this class vessel. Should any change dictate a need for additional people, they will be assigned to the project as required.



## 1.6 Quality Assurance

NMIW has a Quality Assurance (QA) System that is based on the philosophy that each individual workman is responsible for control of quality. Company policy, stressed to all personnel, is that it is up to each individual to meet the specified quality requirements.

We instill a QA attitude in our workers by keeping them fully informed of the technical requirements for accomplishment of their assigned tasks. We do this by providing our workers with proper specifications and technical information, by supplying proper materials and quality tools, and by providing adequate training and supervision on a daily basis. Finally, we inspect our work and performance prior to declaring a task complete and ready for testing or sign off.

All subcontractors work to the same QA requirements as NMIW for performance of work on Navy jobs. Subcontractors wishing to do business with NMIW are subject to an audit by the QA Department who determine if facilities, personnel, and tools can perform to the specification requirements. The Subcontractor Quality Evaluation Report, EXHIBIT 1.6 A, is on file in the QA Office. Verbal or written communications with the subcontractor are noted and filed in the folder maintained on each subcontractor.

We have maintained a complete QA program in compliance with MIL-I-45208A, NAVSEA Standard Items 009-04, 009-09, and 009-12 and company policy for the last eight consecutive years. Following is the list of Navy overhauls which we have worked on with this QA program in force:

### Overhaul Period

### Name and Hull Number

1977-78

USS LANG (FF-1060)

1978

USS MEYERKORD (FF-1058)

1980-81

USS STEIN (FF-1065)

1982-83

USS HENRY B. WILSON (DDG-7)

1983-84

USNS OBSERVATION ISLAND (T-AGM 23)

1984-85

USNS OBSERVATION ISLAND (T-AGM 23)

### 1.6.1 Approach

Our approach is to provide:

1. complete information about processes, procedures and acceptance criteria to crafts and subcontractors prior to start of productive work
2. a positive system for monitoring work to assure quality is being controlled
3. a positive system of reporting instances where quality and control of quality appear to be inadequate
4. a positive system of response and correction to reported instances of inadequate quality and control systems.

This approach is accomplished through a phased program of inspection beginning at award of contract and ending after the guarantee period.

Positions we will use in our QA Program are QA Director, three QA Foremen, and QA Inspectors. The QA Inspectors will be totally dedicated to these overhauls. The QA Director and Foremen will dedicate 100% of their time to this program. The proposed QA team is the same team that currently worked our recent, highly successful overhauls. The three QA Foremen have extensive experience in:

1. machinery/hull structure

2. piping/ventilation

3. electrical/electronics/ordnance

The QA Foreman is responsible for review of specifications, drawings, and reference documents. He will identify all necessary tests and inspections to be conducted and

## NORTHWEST MARINE IRON WORKS

### ASSET DISPOSAL PLAN

The purpose of this document is to set forth a plan for the sale of the non-performing assets owned by Northwest Marine Iron Works.

#### Plan Objective

1. Pay off First Interstate's term debt of \$7.5 million within approximately twelve (12) months.
2. Do not unduly reduce the value of the assets.
3. Structure deals to maximize bottom line impact and thus provide a key element for the restoration of bonding. (After tax gain of approximately \$4.5 million required.)

#### Plan Approach

There are three major asset groupings:

- Atlas Iron Works
- North Side of NW 29th
- Shop Division

Each asset grouping is presented independently with asking and minimum acceptance price, asset strategy, target market and timing. The anticipated time to sale reflects the current status of deals pending and, we believe, is realistic.

All assets will be offered for sale simultaneously with the offering sequence constrained as discussed in the section for each asset grouping. Outside sales agents will be used to dispose of all real estate including the Atlas property. Company personnel will handle the sale of the Shop division and will see to conclusion of existing interests for Atlas. Atlas will then be listed with a business broker.

## ATLAS IRON WORKS

<u>Component</u>	<u>Ask</u>	<u>Accept</u>
Company and Equipment (Exclusive of AP/AR and inventory)	\$2,750	\$2,250
Buildings on 26 acres	\$5,000	\$3,910
14 Acres of Land	\$ 980	\$ 759

## Strategy & Target Market

1. Change in structural steel fabrication market has made Atlas an attractive acquisition/joint venture partner for foreign fabrication company.
2. Operating company sale targeted at foreign fabricator or geographic expansion of domestic fabrication.
3. Real estate (buildings and 26 acres) sale targeted at investment market with lease back by Atlas at \$450,000 - \$500,000 NNN annually.
4. Surplus land targeted at speculator/user market.

## Timing

1. Land and building, 4-8 months
2. Operating Company, 6-12 months
3. Surplus Land, 6-24 months

NW 29th PROPERTY (NORTH SIDE)

<u>Component</u>	<u>Ask</u>	<u>Accept</u>
Office Building	\$800,000	\$550,000
Warehouses and Lot	\$700,000	\$500,000
Portland Machinery Bldg.		\$425,000

Strategy and Target Market

1. The hard to sell property is the office building.
2. Very low demand for stand alone office space in Industrial Northwest.
3. Low interest by speculators/developers.
4. Maximize office building value and speed of sale by holding lot and warehouses until office sold thus offering potential of total package.
5. Offer leases in office building thus opening up potential of investor sale (escape clause if sold).
6. Offer ability to do partnership on office building with potential users. Must sequence for a least 75% of sale.
7. Portland Machinery site deal pending.

Timing

6-24 Months

Office Building, 6-24 Months

Warehouses and Lot, 6-24 Months

Portland Machinery, 1-2 Months

## NW 29TH/SHOP DIVISION

<u>Component</u>	<u>Ask</u>	<u>Accept</u>
Assembly Bldg.	\$375,000	\$250,000
29th St. Frontage Real Estate	\$650,000	\$500,000
Large Machines (2)	\$200,000+Debt	Debt
Prescott/Blue Babe (including inventory, drawings, customers, jigs and patterns)	\$650,000	\$450,000
Machine Shop (Business & Equipment)	\$450,000	\$250,000

## Strategy and Target Market

1. The Shop Division as a combined operating unit is approximately breaking even on a P&L and cash basis; therefore, its combined value is equal to the underlying assets.
2. There is a very large cost associated with moving the two large machines.
3. Sale of the large machines and assembly building to an efficient machine shop currently specializing in small to medium sized parts machining is an excellent use of the structure and large machines.
4. All other machines would be sold or potentially, several moved to Swan Island.
5. The general machining business would be done by the Shipyard machine shop, likely resulting in a profitable outside machine shop business.
6. The Prescott/Blue Babe parts business sold to an existing machine shop serving the forest products industry (a 12-24 month payback for the purchaser).
7. The remaining real estate would be sold in individual lots or in combination.
8. The two large machines and assembly building must be sold before we may proceed with disposal of other assets.

## Timing

Assembly Bldg. & Large Machines	-	18 Months
Prescott/Blue Babe	-	6-24 Months
29th Street Frontage Real Estate	-	6-24 Months

MISCELLANEOUS ASSETS

<u>Component</u>	<u>Ask</u>	<u>Accept</u>
Barracks Barge	\$375,000	\$200,000

Strategy and Target Market

1. Respond to inquiries for the potential sale of the Barracks Barge.

Timing

Barracks Barge, 3-24 Months

## ATLAS IRON WORKS, INC.

11/11/86

## CASH RECEIPTS

	1986 OCT.	W/E 11/7	11/14	11/21	11/28	12/5	12/12	12/19	12/26	1987 JAN	APRIL	JUNE	DEC
3455 Stockton				78									
3468 Lincoln				68									
3475 Nikiski	248				142				23				
3465 Perf. Arts		205			104				182	185	85	150	
3423 VAMC													380
3460 Pacific	18			22									
3462 Good Sam.					35								
3472 Oaks Lndg.	47				39								
3473 Salem Cntr.	10												
3474 Cornell Oaks	334				40								
3478 Central	15				107				15				
3480 Brooklyn					113				12				
3477 Meadow										46			
3481 Conv. Cntr.	43			138									
3431 Chittenden				6									
3443 Greeley										18			
3479 Madigan				20	20	10							
Inventory Cons.		2	3	3	3	3	3	3					
Plate			5	5	5	5	5	7					
Material	5		10	10	10	10	5						
Other	73												
<hr/>													
TOTAL RECEIPTS	793	207	18	354	566	25	13	25	217	259	85	150	380
TOTAL DISBURSEMENTS	350	245	21	403	356	95	130	129	70	40	10		20
CASH FLOW (Accum)	443	(405)	(402)	49	161	(91)	(26)	(130)	17	236	311	461	821

NWMAR133761

ATLAS IRON WORKS, INC.

11/11/86

EXPENSES

	1986 OCT.	W/E 11/7	11/14	11/21	11/28	12/5	12/12	12/19	12/26	1987 JAN	APRIL	JUNE	DEC
Payroll & Canron	252	30	11	53	44	35	35	44	20	30			
A/P	98	217	10	350	300	50	50	50	50				
Att. Fees etc. to collect claims							10			10	10		20
Canron Closing Costs					12	10							
TOTALS	350	247	21	403	356	95	130	129	70	40	10		20



## **INDEPENDENT CONSULTANT AGREEMENT**

THIS AGREEMENT, entered into as of the \_\_\_\_ day of \_\_\_\_, 1987, by and between Northwest Marine Iron Works, an Oregon corporation having its home office and place of business at 5555 N. Channel Ave., Portland, Oregon 97217 (hereinafter referred to as "NW") and Mr. Paul S. Allen (hereinafter referred to as "Consultant") whose business address is c/o Beta Overseas Chartering and Trading Corp., 4550 Post Oak Place, Houston, Texas 77027, and who is retained to provide consulting services in accordance with the following terms and conditions:

### **ARTICLE I - CHARACTER AND EXTENT OF SERVICES**

Consultant will be called upon from time to time, during the term of this Agreement to assist NW with its performance of duties involving the following elements:

- A. Fabrication, assembly and testing of Automated Cargo Handling Technology that will benefit the parties and their associates. Beta Overseas has agreed that NW shall have exclusive responsibility for domestic automated facilities employing Beta's Systems 1 through 5 and their technological successors, recognizing that selection, specification, and manufacture of proprietary equipment and systems shall be governed by agreements between Paul S. Allen and Kocks Crane & Marine Co., a subsidiary of Salzgitter Kocks GmbH., Krupp Industrietechnik GmbH and Beumer Maschinenfabrik KG.

### **ARTICLE II - PERIOD OF AGREEMENT AND TERMINATION**

- A. This Agreement shall commence on March 16, 1987 and shall continue for a period mutually agreed by the parties.
- B. In the event of a breach of any of the terms and conditions hereunder by either of the parties, the nonbreaching party shall have the right to terminate this Agreement as of the date of such default, by notice given in writing to the other, and said Agreement shall thereafter be null and void and of no further effect.
- C. In the event of death or incapacity of Consultant this Agreement shall terminate.
- D. In the event of the sale or acquisition of NW this Agreement may be terminated by Paul S. Allen.

### **ARTICLE III - COMPENSATION**

- A. As compensation for services rendered, NW shall pay Consultant at the rate of \$10,000 (ten thousand dollars) per month upon receipt of invoice. Such payment shall also be as consideration for the

exclusivity rights as provided in Article I B above. Payment will be sent to Consultant's attention at the address first appearing hereinabove.

#### **ARTICLE IV - REIMBURSEMENT**

It is agreed that Consultant fees shall be invoiced back to the Licensing Manufacturer or his designee and Paul S. Allen has authorized such reimbursement from his royalties with these manufacturers.

#### **ARTICLE V - ASSIGNMENT**

The Consultant may not assign or transfer any interest in this Agreement or claim hereunder without the prior written approval of NW.

#### **ARTICLE VI - REPORTING**

In performing services hereunder, the Consultant will report to the company president or his designate.

#### **ARTICLE VII - OWNERSHIP OF WORK PRODUCT AND CONFIDENTIALITY**

Consultant agrees to treat all matters related to NW and to this Agreement as confidential, and further agrees not to divulge such information in any way to persons outside NW, except to Consultant's financial partners, during or after this Agreement, unless otherwise authorized by NW and vice versa.

#### **ARTICLE VIII - CONFLICT OF INTEREST**

Consultant acknowledges that his undertaking assignments under this Agreement will not result in a conflict of interest and furthermore agrees not to undertake during the period of performance any assignment which could in any way be, or be construed as, a conflict of interest.

#### **ARTICLE IX - LICENSES**

Consultant represents to NW that he possesses the skills necessary to perform the services covered by this Agreement, and that he possesses the necessary licenses and permits to accomplish the work.

#### **ARTICLE X - OWNERSHIP OF DOCUMENTS**

Drawings, specifications, requisitions, purchase orders and other documents of a similar nature provided by Consultant or prepared pursuant to contract by Fabricator or its subcontractors are and shall be the sole property of Consultant. Such documents, including the concepts, designs and technical information contained therein, may be published by Consultant, disclosed to third parties by Consultant and/or used by Consultant and its affiliates, or their designees for any purpose and without limitation used by the Fabricator or subcontractors on any other project and all copies thereof are to be turned over to Consult-

ant or disposed of at its discretion, except with Consultant's prior approval, Fabricator may retain one copy of such documents for its file.

#### **ARTICLE XI - GOVERNING LAW**

The validity and interpretation of this Agreement shall be governed by the laws of the State of Oregon.

#### **ARTICLE XII - INDEPENDENT CONTRACTOR**

Consultant's relationship to NW shall at all times be that of an independent contractor and NW shall not be liable for the acts of Consultant or his agents in performing such work except in the case of damages or injuries caused directly by NW or its agents. Consultant will hold harmless and indemnify NW from any and all liability asserted or imposed upon NW by reason of any acts of Consultant outside the scope of the authority specifically granted Consultant under this Agreement. The services Consultant will perform for NW shall be under Consultant's own control and direction and, by the terms of the Agreement, Consultant is not prevented from being employed by or acting as a Consultant to any individual or organization so long as such employment does not conflict with terms and purpose of the Agreement.

#### **ARTICLE XIII - AMENDMENTS**

This instrument constitutes the entire Agreement of the parties and shall not be varied, amended or supplemented except by an instrument in writing executed by both parties.

IN WITNESS WHEREOF, each of the parties hereto has executed this Agreement as of the day and year first above written.

NORTHWEST MARINE IRON WORKS

CONSULTANT

\_\_\_\_\_  
By: William H. Zavín, II    President

\_\_\_\_\_  
By: Paul S. Allen

November 1986

**SHIP PRODUCTION COMMITTEE**  
**FACILITIES AND ENVIRONMENTAL EFFECTS**  
**OUTFITTING AND PRODUCTION AIDS**  
**INDUSTRIAL ENGINEERING FOR SHIPBUILDERS**  
**SHIPBUILDING STANDARDS      THE NATIONAL**  
**DESIGN/PRODUCTION INTEGRATION      SHIPBUILDING**  
**HUMAN RESOURCE INNOVATION      RESEARCH**  
**SURFACE PREPARATION AND COATINGS      PROGRAM**  
**FLEXIBLE AUTOMATION**  
**EDUCATION AND TRAINING**  
**WELDING**

**Problem-solving Teams  
In Shipbuilding**

U.S. DEPARTMENT OF TRANSPORTATION  
Maritime Administration and  
U.S. NAVY

in cooperation with  
Bethlehem Steel Corporation  
Marine Construction Division

# **THE NATIONAL SHIPBUILDING RESEARCH PROGRAM**

## **Problem-solving Teams In Shipbuilding**

U.S. DEPARTMENT OF TRANSPORTATION  
Maritime Administration and  
U.S. NAVY  
in cooperation with  
Bethlehem Steel Corporation  
Marine Construction Division

# FOREWORD

**“There is one thing stronger than all the armies in the world:  
and that is an idea whose time has come.”**

**----Victor Hugo**

Companies in many industries are wrestling with the concept of employee involvement. Many managers agree that the “old stuff” is not working, but they are not really convinced that the “new stuff”, participative approaches, will work. Fear of and resistance to change are often stronger forces than concerns for productivity and competitive position. However, it is just such concerns as these which are mandating changes in the shipbuilding industry today. An important, but often neglected, element of the change process is the involvement of the work force.

Over sixty years ago experiments at the Hawthorne General Electric Plant revealed the problem: How do you properly manage the human resource? Ever since that time labor and management, consultants and academicians have been searching for the answer to the human resource problem. Capturing the loyalty of hundreds or thousands of individuals in one business enterprise so that they direct their energies toward common goals is enormously difficult. Only recently have we recognized that the primary objective of labor — jobs, and that of management — profit, are not mutually exclusive. We are heading into an era in which the human aspects of an enterprise will be given proper recognition along with the technology, marketing and production controls. We will find that a workforce which is energized and committed becomes the most powerful competitive resource of all.

# ACKNOWLEDGEMENTS

The primary author is K. C. Smith, planner, Beaumont Yard who is also Management's Employee Involvement Specialist on the Employee Involvement Staff.

This publication is a deliverable for a project managed and cost-shared by Bethlehem Steel Corporation, Marine Construction Division for the National Shipbuilding Research Program under MARAD Contract No. DTMA91-84-C-41027. The NSRP is a cooperative effort of the Maritime Administration, the U.S. Navy and the United States Shipbuilding Industry. This project was administered by Panel SP-5, Human Resource Innovation, of the Ship Production Committee of the Society of Naval Architects and Marine Engineers. Frank Long, formerly General Manager, Human Resources, Marine Construction Division, Bethlehem Steel Corporation, and currently principal Consultant of the consulting firm Win/Win Strategies is the Chairman of Panel SP-5. Mr. Long also edited the report.

Panel SP-5 set the objective for this project as follows: "To develop and implement an effective method of establishing problem-solving teams which can draw upon the knowledge and experience of all levels of shipyard employees."

This project is a part of the overall Employee Involvement process at Bethlehem's Beaumont Yard. The process started under the aegis of S. C. Perry, General Manager, now retired. It has continued under his successor, R. E. Blackinton.

Dr. Peter Lazes, Work Place Systems, Inc., served as the consultant for the process. We are grateful for his leadership and guidance. Dr. Lazes' associates were very helpful during the needs analysis and initial orientation phases, particularly Dr. Don Kane. We especially appreciate the work of Ron Mitchell during the orientation and training phases. The ongoing assistance and direction of Dr. Lazes and Mr. Mitchell have been most helpful.

The Employee Involvement process at Beaumont could not work without the cooperation and assistance of the Unions and Union leadership which represent the hourly workforce. Representation at the Yard is comprised of the Beaumont Metal Trades Council (Boilermakers, Electricians, Carpenters, Painters, Operating Engineers, Laborers and Teamsters), Local 195 of The United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industries of The United States and Canada and Lodge 395 of the International Association of Machinists.

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# SECTION I

## EXECUTIVE SUMMARY

Employee Involvement at the Beaumont Yard was modeled after the classic "Quality Circle" concept, employing major modifications adapted to the business conditions in Beaumont. The "cart and horse" arrangement of the classic Quality Circle process wherein teams are formed first and then decide what problems to work on was reversed in our situation. The initial "needs assessment", conducted in a participative fashion through employee interviews, provided the problem scenario which allowed the identification of the problems first and then the assignment of the right people to the right problem.

In capsule form, the process was formulated as follows:

1. Identify the problems
  - A. Employee interviews (needs assessment)
  - B. Solicit problems from employees via letter
2. Identify volunteers to work on the problem
  - A. Solicit volunteers from the work force
3. Fit specific volunteers to specific problems, based upon the characteristics of the problem.

Early in the process it was determined that local business needs dictated a results-oriented effort. The Unions recognized a need to preserve jobs and Management needed a vehicle which would provide rapid cost effective results. Competition in the shipbuilding industry dictated a need by the Beaumont Yard to reduce operating costs. With these parameters in mind, the process was formulated as an "expedited process", to be heavily facilitated by the outside consultants, with the emphasis on immediate results.

The Beaumont Employee Involvement process was designed as a two phase process:

1. Problem-solving teams (temporary) of two types:

A. EITs (Employee Involvement Teams) — Six teams meeting weekly, off the job, for up to two hours. As each team solved its problem, it was disbanded and a new team formed to work on another problem.

B. SATs (Study Action Teams) — One team meeting regularly for up to forty hours per week handling large, multiple department problems. This team was also temporary, in that its membership changed as the problems changed.

2. Semi-Autonomous multi-skilled work groups (not multi-craft)

A. Pilot project initially

B. Work groups work in the production process

C. Largely self-managing

D. Ultimately to encompass the whole yard.

The ultimate goal of the employee involvement process was to create a new work place culture where participative management was the rule and hourly workers were encouraged to participate in the decision-making process thereby stimulating innovations in productivity. Utilization of the large pool of previously untapped job knowledge required a basic philosophic and management style change. This process, when developed to its fullest, could encourage this culture change.

The process at the Beaumont Yard was brief, lasting only seven months, due to a rapid business turn down. During this short period of time the program generated annual savings of 125,000 manhours, with a return of over 3:1 over cost. The change in culture was beginning to evolve, due to the high quality of problem solutions brought about by the Employee Involvement process. The short duration, however, aborted the long term change maturation process.

## SECTION II

### INTRODUCTION/OVERVIEW

Bethlehem Steel Corporation is one of the nation's major integrated steel producers. In addition to its steel producing and finishing facilities, it operates iron ore and coal mines in its Natural Resources Group, steel manufacturing facilities in its

Manufactured Products Group and shipyards in its Marine Construction Division, including the Beaumont Yard in Beaumont, Texas.

The Beaumont Yard is a medium size marine construction facility employing 2,500 to 3,000 people during peak operations. It is primarily a designer and builder of mobile offshore drilling rigs, with extensive experience in shipbuilding, conversion and repair.

The Beaumont Yard hourly workforce is represented by nine craft unions. Labor relations over the years have been of the classic adversarial type. Probably the most significant cause of the adversarial relationship is that production and maintenance workers are treated as a casual workforce. There is lack of permanence to their employment inasmuch as the size of the workforce fluctuates with the volume of work at any given time. (This is a situation not atypical of small to medium size shipyards.)

Locally, because of the concentration of oil refineries and petrochemical plants, there are large memberships in craft unions which supply highly skilled tradesmen to contractors involved in maintenance, new construction and renovation of the petrochemical facilities.

These unions supply the skilled craftsmen to the Beaumont Shipyard. The ups and downs of the shipbuilding and repair business preclude sustaining the sometimes high level of employment required for large shipyard contracts, so employment levels at the Beaumont Yard have been as high as 3,000 employees and as low as 50 employees.

The insecurity brought about by this fluctuation in employment has caused the loyalties of the workers to be lodged, in large measure, with their unions rather than with their employer. When the shipyard lays off its hourly employees, those belonging to the union are able to secure employment in construction through the union hall, thus sustaining their income.

Somewhat as a consequence of this interaction between construction work and shipyard work, local wages have escalated over the years to the point where, in the last five years with the advent of intense foreign competition and a shrinking market, the Beaumont Yard has faced substantial problems in obtaining a full order book in a very competitive environment.

Because of the conservation measures undertaken by the U.S. and the effects of high petroleum products pricing, local refineries and petrochemical facilities were forced to reduce capital spending to compensate for reduced sales. This phenomenon caused serious reduction in construction contracts, and very low levels of construction craft employment in the Beaumont—Orange—Port Arthur area.

By mid-1982 the low level of employment in shipbuilding, plus the reduced demand for outside construction contractors, caused serious unemployment among skilled tradesmen in the area.

The militancy of the local workforce has long been a concern of Beaumont management and methods to reverse this trend have heretofore been largely unsuccessful (reinforced by the casual nature of hourly workers).

<sup>1</sup>That contract language is included herein as Appendix A.

The advent of labor/management participation and quality circle movements in the U.S. was not lost to Bethlehem Steel management. A movement toward a more participative management style has been in effect throughout Bethlehem Steel Corporation since 1980. Several Bethlehem operations have had good success with worker participation processes. This message was being heard by the management of the Beaumont Yard.

Not until the general business downturn of 1981-1982 was the climate for major change a real possibility. Several factors combined to stimulate major changes in labor/management interaction.

1. Increase in foreign competition, particularly the Far East.
2. Reduction in construction outside the shipyard.
3. Local shipyard bankruptcies highly publicized.
4. Closure of several Gulf Coast shipyards.
5. Evaporation of the offshore drilling rig construction business.
6. Poor business conditions nationwide, highly publicized by the national media.

During the negotiations which resulted in the labor agreement of 1982, unions and management agreed to contract language<sup>1</sup> which would enable the parties to pursue labor/management participation efforts. Early in the 1982 labor contract term little was done to move ahead with these efforts.

By October of 1982, employment levels at the Beaumont Yard had declined to less than 100 hourly employees. This condition made it obvious to all parties that some action had to be undertaken to change direction in a major way.

The Beaumont Yard had lost its major market almost overnight, the national business economy was in poor condition and the Yard was faced with competing in the marketplace for business with shipyards having much lower cost structures.

During this same general time period, the corporate (BSC) labor/management participation effort was beginning to mature. Success stories from the Steel mills and fabricating facilities were being publicized internally through intercompany publications. Also during this time the General Manager and Assistant General Manager of the Beaumont Yard attended meetings at Corporate Headquarters and heard firsthand of some of the innovations taking place within the Corporation.

They also attended a Problem Solving Team meeting at Bethlehem's Sparrows Point shipyard in Baltimore, Maryland to view a process where management and union personnel sat together in a room and worked together to solve production-related problems. This meeting convinced them that the principles involved could be put to work at Beaumont and that overtures should be made to the unions to get a formalized Employee Involvement effort underway.

## SECTION III

### CONSULTANTS

The unions were not initially receptive toward management's proposals for this new venture into uncharted waters. They were suspicious that employee involvement might be work rules changes in disguise, or some other subtle arrangement for altering the labor contract.

Management had not presented employee involvement as a "win-win" situation, where each party would profit from the effort. Instead, the same people who negotiated grievance procedures presented the information, and did so at the same table where normal adversary situations were discussed. The initial attempts to proceed were short circuited by a lack of planning and preparation.

Recognizing that forward progress toward labor/management participation required a unique approach, management elected to call in a third party. This person would not be an arbiter but an expert in the field of human resources innovation, particularly in the conduct of an employee involvement process in a unionized environment.

Since Bethlehem Steel Corporation had used consultants in its labor/management participation effort, its help was solicited in suggesting consulting firms which could be evaluated by the Beaumont Yard. BSC suggested several firms to the Beaumont Yard, and they were called in for interviews and presentation of their particular process. Firms that had employee involvement systems that appeared to fit the Beaumont situation were evaluated and ultimately one firm was deter-

mined to be acceptable to both the unions and Beaumont management.

Workplace Systems, Inc., headed by Dr. Peter Lazes was the firm engaged to assist Beaumont in its beginning efforts in employee involvement. Lazes' firm is associated with Cornell University and had previous experience working in a union environment in the shipbuilding industry.

Workplace Systems' basic philosophy stated that employee involvement in a unionized work place cannot be implemented successfully without full participation by the unions. They must be full partners in the effort if long-term growth of the process is to be sustained.

As a first step in the process, the Lazes team indicated that an "up-front" assessment of the organizational climate in the yard was necessary, in order to determine current operating methods; to identify the strengths and problems that exist in the yard and to determine the yard's readiness for change. The assessment, when analyzed, would provide the basis for determining the necessary change strategy from which an action and implementation plan could be developed.

In February of 1983, Dr. Lazes and his associates conducted an indepth assessment consisting of personal interviews with 20% of the Beaumont Yard workforce (salaried and hourly), about 230 people, over a two week period.

## SECTION IV

### ASSESSMENT

Upon completion of the "up-front assessment" by the consultants, a meeting was called at Beaumont for the purpose of discussing the analysis of the interviews conducted in February.

The interviews with hourly and salaried personnel in the yard primarily addressed the employee's attitude toward his or her job, and provided two major findings:

1. What's right in the yard? Employees of the Beaumont shipyard were generally quite satisfied with the technical content of their jobs. Pipefitters liked fitting pipe, weld-

ers liked to weld, material men liked to hustle material, secretaries enjoyed their office tasks, engineers and estimators enjoyed their work and supervisors liked to supervise. There was little evidence of "Blue collar blues" in terms of basic dissatisfaction with the technical or skill area of work.

2. What's wrong in the yard? Employees were concerned about the lack of feedback about their work.

Production workers received only infrequent and generalized information regarding production manhour budg-

ets, schedules and overall progress. The message "We are behind" had lost its significance since employees have little appreciation of where the project stands.

Employees were quite dissatisfied with those aspects of yard operations that prevent them from: a) doing the quality of work of which they are capable, and b) gaining satisfaction in the knowledge that their efforts were appreciated.

Internal information sharing was considered to be another inadequacy in the yard. People did not feel they were well informed as to major developments within the yard (acquisition of equipment, new contracts, corporate policy changes, etc.). This communication problem was shared by personnel in engineering and other staff functions. The most consistent problem area reported both by management and production workers was that of inadequate scheduling, planning and coordination between crafts, shifts, and various departments within the yard.

Much emphasis was placed upon the level of rework entailed with the jobs currently in the yard and the subsequent close supervision that resulted. Tools and materials availability were joint concerns of both production workers and their supervision. Small tools and welding leads in particular were areas that caused intense rivalries between crafts.

Summarizing the principal findings of the assessment, the following nine issues were uncovered:

- Feedback
- Information sharing
- Employee involvement
- Coordination and cooperation between departments
- Rework
- Close supervision
- Tool and material availability
- Job enlargement
- Training

Upon presentation of this information to management, the consultants suggested possible interventions that would provide opportunities to address the problems and strengths by employee participation in a problem-solving process. The interventions suggested to address the issues were:

1. Multi-craft self-managing work groups
2. Single department self-managing work groups
3. Study/Action teams

**Multi-craft self-managing work groups** were recommended for adoption within the production departments. Multi-craft self-managing work groups would address all nine of the principal problems identified in the organizational assessment (e.g., feedback, information sharing, employee involvement, coordination and cooperation between departments, rework, close supervision, tool and material availability, job enlargement and training). These product-oriented production work groups with a fairly stable membership of individuals from a number of the crafts would be given responsibility for the efficient completion of clearly defined

and budgeted work packages. These groups of employees, along with their first line supervisors, would be given significant freedom in the manner in which they accomplish their task.

The number of such groups within the yard, their individual sizes, craft compositions and life-spans, would be a function of the amount and nature of work that is in the yard at any point in time.

Each work group would be assigned a clearly defined work package, manhour budget and schedule. It would be this target, and not individual craft allotments, that would serve as the group's joint objective.

Each group would be self-managing in the sense that it would be given the responsibility and authority to determine and control its own line-up, working arrangements, tool requirements and manpower needs. Each group would also be responsible for checking on the availability and adequacy of material and engineering drawings for its work package. All such internal decisions would be monitored by management and a joint labor/management steering committee for the production departments to ensure that innovations do not negatively impact other groups or other departments and to ensure that successful innovations are communicated to other such work groups in the yard.

To the degree that self-management within these work groups will result in delegation of responsibilities to first-line supervisors and the employees on their tools, all levels of supervision would be provided more time to attend to critical inter-departmental matters such as the availability of tools and material, the adequacy of engineering drawings, more accurate estimates, better planning, appropriate training, safety improvements and longer term management concerns in general. One new and very important job of management would be to effectively match specific work packages to suitably constituted work groups.

**Single-craft/department self-managing work groups** were recommended as an alternative intervention in the production departments and as a primary intervention in plant maintenance.

Within production, such groups would function in much the same fashion as just described for multi-craft self-managing work groups. However, they would be formed solely of single crafts and would operate with single-system work packages, budgets and schedules. The introduction to production of such single-craft groups would address all but one of the principal findings of the assessment. It would have a minimal impact on the problem of inter-craft cooperation and communication. For this reason it was recommended here only as an alternative to the more powerful multi-craft work group approach.

**Study/action teams** were recommended as the intervention that addresses those problems that are not department specific, but cross department lines or might be all encompassing problems common to large segment of the production force. A study/action team is a group of employees which meets regularly (and gathers information between meetings) to address a specific problem or set of problems. The size, composition,

intensity, activities and life-span of any study/action team is contingent upon the nature and seriousness of the problems being addressed. Some might be internal to a single department, while others could be inter-departmental. Some study/action teams may meet intensively for only a matter of weeks, while others may find it useful to continue meeting on a regular, but less frequent, basis. These groups will also be monitored by a joint labor/management steering committee.

The study/action team concept is one which lends itself to addressing any and all of the principal findings of the assessment.

Upon completion of this initial orientation of management concerning the critical findings of the "up-front assessment", the consultants then presented the same information to all the unions connected with the Beaumont yard.

The next step in the assessment phase of the Employee Involvement process at Beaumont was to get the parties together to discuss the alternate interventions and attempt to reach a consensus.

Rather than repeat the mistake made by management in the beginning of the process, by calling a meeting at the yard, two off-site meetings were scheduled, one for each party, at which the alternate proposals would be discussed and preliminary decisions could be made.

The management "off-site" and the union "off-site" were held separately, and each group determined the priorities for the employee involvement process independently. The only hurdle remaining was to bring the two parties together to discuss their individual priorities and to reach a common ground which would form the basis for the employee involvement process. In August of 1984, labor and management met collectively and formed the labor/management policy and planning council. At this meeting it was agreed to postpone implementation of the multi-craft teams and the self-governing work groups in favor of the "study/action team" and several problem-solving teams. Also at this meeting, management and union Co-chairmen of the Policy and Planning Council were chosen.

As a result of this meeting, a letter was written to all employees outlining the decisions reached by the Policy and Planning Council to initially inform the total work force of the progress of Employee Involvement.

Following the progress report to the yard, the Policy and Planning Council met to create the functions that would manage the Employee Involvement process and to select the key people who would facilitate the process on a day-to-day basis. The employee involvement Steering Committee was organized with three members of management and three union members. The Planning and Policy Council recommended the personnel for the main operating unit, the Employee Involvement Staff, to the unions and management and received approval to appoint one department head as the Director of the staff on a part-time basis, and the appointment of two full-time facilitators, one from the union and one from management. Again, a letter was sent to all employees informing them of the key decisions made to date to keep all yard personnel updated on the progress of the process.

The final phase of orientation took place in January of 1985, when the consultants and the Employee Involvement Staff conducted an eight hour orientation session in a classroom atmosphere for all supervision and union stewards in the yard. Seven individual sessions on two shifts were conducted, bringing approximately 230 of the yard's managers, supervisors and union stewards to discuss Employee Involvement and its impact on yard management.

This orientation included a basic discussion of group problem-solving techniques, classroom exercises similar to those to be presented to the EI participants and an indepth discussion of the role of middle management as resources to the process. At this meeting, the goals of the EI process were outlined and the supporting roles of supervisors were highlighted, emphasizing those areas which would affect the supervisors' daily activities. Emphasis was placed on the decisions made to date and the supportive role management was to play as the process matured. Key to these meetings was the attendance at each meeting by the General Manager, the Assistant General Manager, and other key managers which spoke to the issue of top management support for the Employee Involvement process.

Middle management and supervisors often view Employee Involvement as undercutting their historic role as the decision makers and problem solvers. This issue was discussed openly and put to rest by pointing out that Employee Involvement supports their role and allows them to address other issues of substantial importance to the production process. Participative management styles were discussed and their support of the Employee Involvement process was solicited.

## SECTION V

### PROBLEM/VOLUNTEER SELECTION AND ASSIGNMENT

Probably the most unique aspect of the Beaumont Employee Involvement process is that it was totally task or results oriented.

The issues faced by the Beaumont Yard were clear to all involved, survival was the issue, and productivity-related problems were the focus of the Employee Involvement process.

With these issues in mind, the process was designed to by-pass the sometimes lengthy process of problem selection by the problem-solving teams themselves. Following are the methods used to accelerate the process:

Once the employee involvement hierarchy had been established and trained and the yard notified of the current state of the process, the EI Staff and the Steering Committee drafted a letter to all employees requesting that they submit problems to the EI Staff. In the same letter volunteers were solicited for the process. The letter stated that problems related to Company policy, Union contract issues and gripes could not be addressed by Employee Involvement. The problems had to deal with issues that affected productivity, safety, housekeeping or other similar problems.

Within two weeks, the staff had received responses as follows:

1. Problems: 175
2. Volunteers: 185

The Steering Committee directed the EI Staff to review, consolidate and prioritize the problems. The 175 problems were consolidated into 20 categories. They were then prioritized using the following rating system:

1. How addressable is the problem?
2. How appropriate is the problem?
3. What is the anticipated cost of a solution (large or small)?
4. What kind of benefits can be expected (large or small)?
5. How long will it take to solve the problem?
6. How acceptable will the solution be to others?

These six questions were rated on a scale of 1-10 on each problem submitted, thus providing a basis for evaluation.

Once the problems had been evaluated by the union and management partners on the EI Staff, and they had reached agreement on the rating of the problems (the staff rated them separately to determine the problem priority), all the problems were assembled and placed within their particular category, with a rating sheet as compiled by the staff, attached, copied and prepared for the Steering Committee (six identical pack-

ages including all the problems, as submitted, consolidated into the 20 categories).

A meeting with the Steering Committee was called for the purpose of detailing the methods employed in prioritizing and categorizing the problems. Each member was presented a complete package of the problem/volunteer sets, along with the same rating sheets (blank) for their use in evaluating the problems themselves. The Steering Committee members were asked to review the problems and make their own judgment about the importance of each problem individually and to attend a meeting three days later when the problems would be prioritized by the group and a consensus developed concerning the assignment of the problems.

During the three-day period between the meetings each department head in the yard was visited by the EI Staff and all the problems submitted by his department personnel were discussed. It was imperative that those department heads affected by the problems be fully informed and be participants in the process from the start. (The names of the individuals submitting the problems were deleted so there would be no possibility for future recrimination.)

During the discussions with the department heads, they were asked if any of the submitted problems could be resolved by the department without assigning it to a problem-solving team. Several minor problems were resolved immediately by this process.

Prior to the Steering Committee meeting, the Staff drew up flip charts listing all the consolidated problems in a manner that would allow each Steering Committee member to have his individual rating of the problems listed separately. When rating points were assigned by each member, they could be added up to determine the problems with the highest priority rating.

During this same period, each volunteer was listed with his/her seniority date and department. (The purpose for indicating seniority was to prevent assignment of a very new employee to a long term problem, since workforce reduction plans would be in effect in the not too distant future.)

The Steering Committee meeting was held as scheduled and each member proceeded rating each problem on a scale of 1-7, with 7 being the most important. (There were to be seven problem-solving teams — one study/action team, and six problem-solving teams.) When all six Steering Committee members had individually rated the problems, the numbers were added up and the seven problems with the highest numerical ratings were chosen for the initial assignment to the problem-solving teams.

After the problem prioritization, team members were selected to staff the teams. If a problem was department-specific,

the team would be composed of that department's volunteers, plus others with skills related to the problem. Example: Pipe Hanger Identification Problem; selected two pipefitters, one mechanical draftsman (piping), one pipe sketcher, one dispatcher, two from paint and labor department and one person from the machinery department (machinists actually make the pipe hangers). A total of eight people was assigned to the problem, three salaried and five hourly. The purpose for the distribution was as follows: The hangers are produced by the machinery department, painted by the paint and labor department, delivered by the transportation department (dispatcher), used by the pipefitters and the problem solution would require some design and drafting work.

The Study Action Team was staffed differently since their problem was global in nature. The SAT had as its members the following: a civil engineer, a pipefitter, an electrician, a car-

penter, a machinist, a welder, a shipfitter and a tool repairman.

Because the Employee Involvement process at Beaumont was a start-up venture the decision concerning the number of people to receive training was a complex one. Ultimately, it was decided to train only those people actually assigned to a problem-solving team and postpone further training until the teams had solved, or were approaching the solution, to their problems. The Beaumont process was developed in a manner that caused each team to dissolve when its problem had been solved. This would enable more people to become involved when new problems were selected.

In summary, the problem and volunteer selection process provided a means to get on with the task at hand and prevented the system from being bogged down by personal preference issues.

## SECTION VI

### TRAINING

Initially, the EI Staff received training at the Bethlehem Steel Corporation Offices during September, 1984, where intensive training in group process facilitation was presented.

The training course was entitled "EPG", Employee Participation Group Training, and concentrated on presenting effective techniques of facilitation of problem-solving groups. At this time, the staff engaged in actual problem solving within a group formed for this purpose. The group developed its own problem and processed it through the normal problem-solving "Six Step Process"<sup>1</sup> developing a solution through group consensus.

Throughout this training session the psychology of groups was emphasized since this is a major hurdle that must be recognized and coped with by facilitators. Methods for developing a classroom atmosphere conducive to creative thinking and keys to drawing out group participants who are reluctant to participate were some of the issues discussed.

Actual presentations of problem solutions, using visual aids created by course participants, were included. Speaking before groups took a significant percentage of the training, so that much experience in using facilitator tools was gained.

The second phase for facilitator training took place in Beaumont and was conducted by Dr. Lazes and his associates from Cornell University. This training took place from November, 1984 until January, 1985 on a regular basis at the training facilities in Beaumont. The emphasis of this training was placed upon group problem solving and was consistent with the training received at Bethlehem, although specific to the Beaumont organization. Additional training was presented concerning the course design for future training of Beaumont employees. The curriculum for the Employee Involvement training was developed and tailored to the regional influences of Southeast Texas. (Classic classroom exercises were struc-

<sup>1</sup>See Appendix E.

tured to capitalize on the rural rather than urban backgrounds of the participants, i.e., hunting, fishing, football, etc.)

Significant emphasis was placed upon freeing the mind of traditional solutions to better address yard problems in unique and creative ways. This emphasis continued throughout the training and through the total process. Brainstorming and cause-and-effect analysis instruction were highlighted as well as techniques for implementation of problem solutions. Analytical techniques for charting the impact of problem solutions, in addition to statistical methods for gathering data, were developed in detail.

Concurrent with the training of the EI Staff, the Members of the Steering Committee received training in the problem-solving techniques to be employed by the problem-solving teams. Additionally, they were instructed in the methods to be used in substantiating problem solutions (statistical analysis, sampling techniques, and basic time and motion study). They were introduced to the group consensus theory and actually participated in exercises which developed difficult areas of prioritization of problem subsets and the detail of bringing about agreement by group members.

Employee Involvement team members were given three days of classroom training in problem solving, prefaced by a thorough discussion of Employee Involvement and its meaning to them and to the future of the Beaumont Yard. Unique to this particular process, the teams were trained together as a team, using the problem that had been assigned to them by the Steering Committee as a reference throughout the training period. This method allowed the team to make supervised progress toward their problem solution while still in training, thus shortening the total duration of the solution process.

The team training was broken down into the following elements:

#### Day 1: Introduction to Employee Involvement

Consensus and Brainstorming instruction (liberally interspersed with practical exercises)

Actual group problem exercise (desert survival)

Advantages/disadvantages of groups

Listening skills

Use of group resources

Receiving ideas positively

Characteristics of effective groups

#### Day 2: Overview of Six Step Problem-solving Process

Two video tapes of actual problem-solving teams at work

Creative problem-solving film

Classroom exercises: nine dots, ping-pong ball in tube

Listening/communication

Problem-solving teamwork exercises

#### Day 3: Planning and conducting effective meetings

Use of agenda

Member responsibilities

Role of team leader and recorder

Work at preparations for solving their assigned problem.

Before the teams left the classroom they had begun to address their assigned problem and had the advantage of working closely with the experienced consultants and the EI Staff on the crucial initial phase of their problem-solving process. As they began, the consultants and the Staff could reinforce the process while it was still fresh in the minds of the participants and help alleviate the initial awkwardness of working together in an unfamiliar and challenging atmosphere. This aspect of the training was critical to the success of the problem-solving teams.

## SECTION VII

### PROBLEM-SOLVING TEAMS IN ACTION

John Greene, an hourly pipefitter, stood in front of the classroom scanning his notes for the last time. Surrounding him, involved in their own tasks were several of the other problem-solving team members. Two men were mounting graphs on a flip chart, while the engineer and the pipe sketcher were affixing blown-up engineering drawings on two easels in front of the classroom. The two men from the paint and labor department were distributing printed handouts of the problem solution to the positions where the invited guests would be seated.

This was going to be a unique experience for all the problem-solving team members. Never before had hourly people participated in the decision-making process at the Beaumont Yard. Now they were in the final stages of preparation for a presentation to the General Manager, Assistant General Manager, the Employee Involvement Steering Committee, five department heads and the Employee Involvement Staff.

John never thought that submitting a pipe hanger identification problem to the Employee Involvement Staff would thrust him into a situation like this. He was only interested in having someone address a nagging problem that he and his fellow pipefitters faced on a daily basis. Now, here he was, preparing to present to the top management of the shipyard the problem solution that he and his fellow team members had agonized over for five long weeks.

Ever since John had volunteered for participation in the Employee Involvement Process, and had submitted the problem about pipe hangers, he had wondered to himself whether this program was like others he had seen come and go in his years as a pipefitter at the Beaumont shipyard.

Unlike other programs, the Company had provided some excellent training in problem-solving techniques, which were mystifying at first, but as his team started working on their assigned problem during the training, the purpose for investigating group consensus, and brainstorming techniques, and the study of statistics and fact gathering gradually became evident. It was not easy to get everyone to agree on all the points concerning the problem. To John, the facts of the problem were so obvious. How come the others could not follow his logic? As the team saw the facts of the problem unfold, it gradually caught up with John, and when the understanding was complete, they had been able to proceed with the solution to the problem.

John was amazed at the suggestions that the team had made as they proceeded through the six-step problem-solving process. The power of the group had evaluated the problem, and after becoming familiar with the facts, had developed a unique and workable solution.

Now the team was ready to formally present its solution to top management and make recommendations for investing in



the hardware and training that would provide a substantial productivity improvement for the yard.

As the invited guests arrived, and took their assigned seats around the horseshoe-shaped table arrangement, John wondered what was going through the minds of the Company officials. Normally, they would be standing in his place preparing to make the presentation. John was hopeful that all the work and preparation would result in changing the yard in a small way.

Now that everyone was seated and the flip charts in place, the facilitator asked John to introduce himself and his team members to the guests. Then the guests introduced themselves to the team.

John began his presentation by explaining that his team had been assigned the problem of providing a means to identify pipe hangers, from a distance, where they were stored on the 800' Pier.

He explained that, currently, pipe hangers were stored in detail tubs, scrap tubs or just plain dumped on the ground on pallets in any place where ground space was available on the dock. In the process of moving heavy materials around during the day, the hangers became mixed together and scattered all over the 800' Pier, such that locating them became a chore and took valuable production time. Additionally, since pipefitters and welders work as a team, when the pipefitter was looking for hangers the welder was idled thus doubling the cost of locating the required materials.

Another irritating and costly aspect of the problem was that the hangers (chair-type) are made in two separate pieces and the pieces became separated, thus doubling the search effort again. Not only were the proper size hanger difficult to locate initially but the mating cap to the hanger was just as hard to find.

Compounding the problem even further, each pipe hanger required two bolts and nuts to join them around the pipe upon installation, and when the hangers were mounted to water tight or oil tight bulkheads, mounting pads of various sizes and thicknesses were required, each item dependent upon the size of the hanger, and since they were much smaller, they were even more difficult to locate.

In order to explain the magnitude of the time lost looking for pipe hangers and their component parts, John explained to his audience that the pipefitter had to leave his work site, sometimes up to 600' away from the access to the ship, and sometimes four or five decks below, causing up to ten minutes time just to get off the ship. Then, once the pipefitter was on the ground, locating the required materials could take up to 30 minutes (assuming he did not use this situation to visit the rest room, or coke machine, and assuming he did not meet a friend and discuss the latest sporting event).

John made use of his visual aids to point out these individual time increments and pointed out that leaving the ship could take up to ten minutes, looking for hangers might take up to

thirty minutes, and returning to the work place another ten minutes, for a potential lost time of fifty minutes per trip. John then explained that this time represented the worst case scenario, and that, in fact, some trips took a total of only fifteen minutes. He then explained that this information gave the team only an order of magnitude idea of the potential time costs as a result of this problem and the justification to explore the actual costs in more detail.

He then turned the page on the flip chart and began to explain how the team determined the actual time lost in locating pipe hangers. Four members of the team were dispatched to the work site (a TAKX ship conversion) to interview individual pipefitters to determine how much time they actually spent looking for hangers, bolts and nuts and the mounting pads. Since there were over 200 pipefitters working on the job at this time it was impractical to talk to all of them. The team determined that interviewing ten to fifteen percent of the pipefitters would give them a statistically representative sample. They interviewed the required number of pipefitters and determined that the time lost was large but that no one could give specific enough information during the first interview. The team members asked the pipefitters during the initial interview to keep track of the actual time they spent during the next week looking for pipe hangers and related materials and to give it to the team members the following week.

The flip chart that John now displayed indicated the results of this survey. The chart information indicated that 30 pipefitters had been interviewed, and that they spent, on average, 3.25 hours per week "looking" for pipe hangers, caps, bolts and nuts and mounting pads. Although there were 210 pipefitters on the hourly payroll not all were directly involved in using rigid pipe hangers. It was determined that production welders, material hustlers and leadermen should be eliminated from the total in order to most accurately depict the extent of the problem. This reduced the affected workforce to 150 pipefitters.

Carrying this information forward on his next flipchart, John showed the extension of this information as follows:  $150 \times 3.25 = 487.5$  manhours lost per week, multiplied by 4.3 weeks per month netted 2096 lost manhours per month "looking for pipe hangers". Using the hourly rate (approximate) of \$12.00 per hour, and ignoring the other wage-related costs, the cost to the yard due to this problem was in excess of \$25,000.00 per month.

Higher management of the yard was visibly shocked when they learned this information. John proceeded to inform them that the department heads directly affected by this information had received a preliminary presentation of this information the preceding week, and had concurred with the data as presented and had supported the presentation information about to be demonstrated.

The presentation continued by outlining the process they had used to come up with their problem solution. Using the **Six Step Problem-Solving Method**<sup>1</sup> and the brainstorming techniques<sup>2</sup> learned and practiced in the classroom, the group had

<sup>1</sup>See Appendix E for a complete explanation of the Six Step Problem-Solving Process.

<sup>2</sup>Ibid.

offered numerous potential solutions. Upon evaluating the suggested solutions, group consensus had developed what they considered the optimum solution. They decided upon an approach that would address the majority of the problems faced by the pipefitters. The team decided to build a storage bin capable of holding a week's supply of hangers and caps, plus bolts, nuts, and mounting pads. Furthermore, they decided to color code the hangers according to size at the point of manufacture to insure stocking the bin with the proper sizes.

The bin would be constructed with large compartments on the bottom to hold the chair portion of the hanger and smaller compartments directly above which would hold the mating caps. Each of these compartments would be painted with the same color code as the hanger stored within it, thus providing a positive means for controlling the accuracy of the inventory process. Additional compartments would be constructed, complete with sealed doors, to hold the required bolts and nuts and mounting pads. These compartments would be identified by painting the sizes on the doors to the compartments (doors would be required to keep the bolts and nuts from exposure to the elements since they are not painted).

The storage bin would be constructed with identical compartments back to back, so access from both sides would be possible. Additionally, lifting pads and fork lift slots would be provided to insure portability, as required. The structure would be approximately 5'6" high, by 12' long, by 3'6" deep with the capacity to hold up to 10 days supply of pipe hangers.

In addition to the storage bin, it would be necessary to provide a means to transport supplies of hangers to the various work areas aboard the vessel by crane. The team devised a "transporter", consisting of a central vertical member mounted upon a 3' square steel base, the vertical member was a 4' piece of 3" pipe, with arms protruding upward at a slight angle, similar to the branches on a Christmas tree. The arms would have a chain welded to the end, and clipped to the vertical riser as a safety device to prevent hangers from falling off during transit. Four of these transporters would be required to maintain an uninterrupted supply of hangers aboard the vessel.

The last item the team needed to complete its solution was a device for the paint department to use as a means to control the accuracy of the color coding process. Since pipe hanger sizes are not a familiar item to painters, it was determined that a gauging device should be constructed and placed at the point where the color code would be applied to the hangers. A 2" X 1/2" flat bar with all the chair hangers welded to it, and painted in the color to be coded would be hung at the two paint stations, thus providing a constant system for determining the correct paint color code.

The color code would be applied with an aerosol paint spray to the lower leg portion of the chair hanger, covering about 1-1/2", and the caps would be painted on the side toward the pipe, to eliminate any compatibility problems with paint schemes in the immediate area where hangers would be mounted. Since the majority of the chair hangers were cropped for sizing during installation anyway, the color code would be removed at this point. What was not removed by shortening the legs during installation would be burned off by the heat from welding the hangers to the vessel.

At this point in the presentation, John paused to allow his team members to comment on their crafts' acceptance of the procedures discussed so far. At this time, he also asked the Steering Committee and the invited guests for any comments they might have concerning the solution.

Several technical questions were fielded successfully by the team members, until one Steering Committee member asked what the rigging department thought about the handling methods suggested by the team. At this point, John asked the head of the rigging department to answer this question directly.

The rigging department head explained to the group that the team had approached him two weeks ago with this problem and the projected solution and that he had suggested some safety additions to their solution which had been included in today's presentation. Additionally, he added that this solution was providing additional benefits, since it would alleviate a great deal of congestion on the 800' dock which gave his people problems in locating material. He also mentioned that the current methods for loading hangers aboard the vessel were only marginally safe, and that the use of the suggested transporters would not only be safer, but would save him time by reducing the number of lifts required to service the pipefitters.

At this point, John indicated that there was one additional cost item that the team had included which needed to be covered. He said that normally when a new procedure or method was introduced in the yard, the way people found out was to see the new equipment in use or to learn about it after the fact. In this instance, the team wanted to inform all the pipefitters about the problem solution before implementing it, in order to get immediate acceptance of the idea and to field all questions up front to eliminate confusion. The team recommended that all the pipefitters be called into the meeting room for 45 minutes of presentation and discussion prior to implementation, as a means to communicate the success of the EI process and to eliminate all potential confusion about the solution.

Once all the questions and comments had been fielded John turned the pages on his flip charts and proceeded to discuss the cost implications of the solution. His chart showed the following cost information:

Storage Bin	\$4,000.00
4 Transporters	1,400.00
Presentation time	<u>1,500.00</u>
Total cost =	\$6,900.00
or approx.	7,000.00

Savings of \$25,000.00 per month x 4 months left on TAKX = \$100,000.00. This would equate to \$1,162.80 savings per day, or a total payback of the investment in 6.0 working days.

John then asked the Steering Committee for approval to proceed with the implementation of the solution. The Steering Committee complimented John and his teammates on a very professional presentation and indicated that the solution was accepted with the thanks of management for a job well done. The General Manager asked how long it would take to build the necessary equipment and have it in place so the implementation could proceed without delay. John indicated that in two weeks the solution would be implemented and the orientation complete.

The General Manager complimented the team on the thoroughness of their solution process and expressed his pleasure about the timeliness of the whole process. He commented that only six weeks had elapsed since the first day of their training

and that the results of their efforts over this short span of time indicated the dedication of the team to the process and the problem. He said he hoped that the lesson learned by the cooperation of all involved would spread throughout the yard.

## STUDY ACTION TEAM

### PROBLEM #1

The Study Action Team (SAT) had been assigned the “global” problem of **“Tools and equipment: Maintenance and Availability”** as its overall assignment, since this problem affected the whole yard and was not specific to one department. The make-up of the SAT reflected their assignment, in that seven hourly people, one each from electrical, carpenters, shipfitters, welders, pipefitters, machinists, and one tool room repair man, in addition to one salaried person, a civil engineer from the Design Engineering Department made up the team. The team members chose Stuart Reeder, the engineer, as their team leader during the training phase.

During the training sessions the team was able to review the list of problems submitted by the employees to determine which one they would approach as their first attempt at problem solving. Because the team wanted to attack a problem with high visibility to the workers in the yard and also wished to get their “feet wet” on a problem of minimum complexity, they elected to rate the problems according to those parameters while still in the classroom phase of training.

The team applied the same rating criteria<sup>1</sup> as used initially to prioritize problems, and by brainstorming<sup>2</sup> the list of problems assigned to them, they decided to work on the problem named: **“inadequate facilities for hooking up air-operated tools”**.

Stuart and the Team researched the problem, and visited the worksite (TAKX conversion located at the 800' Pier) to determine the scope of the problem and the departments affected by the problem.

The initial foray into the yard on an information gathering mission proved to be an enlightening experience to the hourly team members. Not all the personnel contacted were receptive to their requests for information. They found some resistance to information sharing among the department heads and some high level supervision who appeared to resent hourly people asking them questions concerning productivity and tool availability.

The hourly team reported this problem to Stuart, and he immediately contacted those department heads involved and indicated that the Team was seeking out information concerning a

problem that affected their departments' ability to perform in a productive manner, and reiterated the fundamental purpose of the Employee Involvement Process that they learned during the initial phases of the process.<sup>3</sup>

After this initial problem with information sharing, the Team found that information was more readily (if reluctantly) available. In order to avoid the defensiveness encountered with the top levels of supervision, the Team found that the quality and quantity of information available from the hourly people and lower levels of supervision provided them with the data required and, ultimately unless absolutely necessary, the Team did their fact gathering from among this group.

The Team gathered enough preliminary information to make an initial assessment of the distribution of the problem, including what departments would be impacted by resolving the problem. They prepared a flip chart depicting the departments affected along with the various skills within the department that required access to air power. The chart included the following information:

DEPARTMENT	SKILLS
Welding	arc gouging chipping (slag) tank testing
Hull	grinders
Pipe	pumps (testing) pencil grinders (welders) disc grinders
Paint/Labor	spray paint equipment air line respirators sand blasting equipment pumps (stripping)
Machinists	drills pumps air wrenches

After determining the scope of the problem, the Team explored the yard to determine the causes of the problem. Their information gathering uncovered some interesting background information which would be useful in the solution process.

<sup>1</sup>See *Problem/Volunteer Selection and Training Section*.

<sup>2</sup>See Appendix E.

<sup>3</sup>See *Orientation Section*.

Shipyard practice employed the use of portable air manifolds erected aboard ship at multiple locations on various deck levels. The locations were chosen primarily dependent upon the heaviest use. Normally, the Hull Department and the Paint and Labor Department have the heaviest usage and servicing those crafts is most critical during the bulk of a construction program. The manifolds have up to eight air outlets and the worker uses a common screw-in quick-connecting air fitting to tap the air supply. Normally, the equipment he is using contains one-half of the connector, with the mechanic supplying the other half to connect to the manifold.

A vessel under repair or conversion may have up to 20 manifolds located on various deck levels in each hold in order to minimize the amount of connecting hose required to reach from the manifold to the actual jobsite. Additionally, each fabrication shop in the yard is supplied with air service and each shop had multitudes of outlets utilizing the same type connector. The outside building ways and platens were also supplied with air and contained connections for the same fitting. In all, approximately 900 air outlets were available throughout the yard for connecting air tools to the air supply.

Unfortunately, air connections were not issued as standard items along with mechanics tools, so each time a mechanic needed to connect a tool to the manifold he had to travel to the tool room and check out an air connection and return it to the tool room at the end of the day. Since the tool rooms were located a long distance from the work site, this situation caused substantial lost time.

Armed with this information, the team decided that the problem could be totally eliminated by providing the female half of the air connection at all air outlets in the yard. Upon discussing this potential solution with the Maintenance Department it was found that each air connection cost about \$7.00 and purchasing new connectors would amount to over \$6,000.00. This did not seem to be a feasible resolution of the problem because it was found that 10 years ago all air manifolds had been equipped with these connectors only to have them removed by mechanics for use at another location.

The Team decided that they must find a way to permanently affix air connectors to all the available outlets in the yard, without purchasing a large quantity.

They decided to talk to the hourly people and determine if there could be a large quantity of fittings that had not been checked into the tool rooms. A survey of the large users of air connections uncovered the fact that some of the older employees had indeed been putting aside air connections for some time, so when a need arose for more than one connection, or, if a connection had been stolen, they would have a spare or two available. The team found that this practice had been going on for many years and that some employees had as many as twenty extra air connectors in their personal lockers or in their tool boxes.

The Team then decided that the only way to recover these "stashed" connectors was to offer an amnesty to all holders of extra connectors and provide an anonymous method of returning them to the tool rooms for collection. They decided that through a letter to all employees, discussions with work-

ers by supervision and personal contacts made by the SAT this could be accomplished.

One other factor remained to be resolved. The people had told the Team that they would not return their spare connectors unless they were satisfied that a permanent solution to the air connector problem had been reached and that management had approved implementation of the plan.

The Team proceeded to collect statistical information on the lost time involved in travelling to the tool room for connectors in order to evaluate the costs involved in providing a solution.

The members of the SAT requested interviews with all department heads affected and collected information concerning the number of people who used air connectors and the frequency of use. They next conducted a study of the time required to travel from each major work location in the yard to the tool rooms and recorded round trip times, including the time required to check out air connectors.

The Departments responded with the information requested and the Team began to evaluate the information. The following data was recorded on a flip chart, and the Team began their preliminary cost analysis:

DEPARTMENT	# AFFECTED	TIME LOST
Hull	12	8 hrs/day
Pipe	31	16 hrs/day
Welders	44	<u>16 hrs/day</u>

Total = 40 hrs/day

There were some differences between the information received from the department heads and the hourly and first line supervision so the team elected to use the more conservative data which dictated using 40 hours per day lost "going to the tool room for air connections". 40 hours per day x 250 work days per year = 10,000 manhours per year lost travelling to and from the tool rooms for air connectors.

The Team now had the basis for continuing with the initial direction of the problem solution. In order to overcome the problem of air connectors being removed from manifolds they had to come up with a cost-effective method of permanently affixing them to the manifolds, a system of maintaining the portable manifolds when removed from worksites to storage areas and a method of retrieving the surplus air connectors in the hands of the employees.

The Team brainstormed these problem sub-sets and ultimately elected to test out an Epoxy cement as a means of semipermanently affixing the female half of the air connector to the manifolds. They contacted the Maintenance Department to determine if such material was available in the yard. Several varieties were available and the Team proceeded to test mount several air connectors to manifolds to see if they could be made pilfer-proof.

They tested four different brands and types of Epoxy cement until they found a variety that would withstand the established parameters for torque resistance. Once this material had been tested and witnessed by Maintenance personnel the Team had

the major hurdle overcome. The next step was to return to the classroom and attack the remaining two pieces of the puzzle, namely, maintenance and connector return.

The last two pieces of the problem were determined using the techniques learned in training and workable solutions to these problems were established. The maintenance procedure was developed around existing methods, but was formally reduced to writing so responsibilities would be clear and understandable. Once a manifold was no longer needed on the construction site it was returned to Maintenance for a serviceability check. If it was found that an air connector was missing, the manifold would be sent to the Pipe Department for replacement of the missing connector. Then the manifolds would be put in the normal storage space by the Pipe Department in a completely serviceable condition and ready to be shipped to the next work site with air manifold requirements.

In order to retrieve the outstanding air connectors in the hands of the employees, the Team determined that an empty 55 gallon drum with the large bung removed could be stationed at each tool room. The employees could drop the connectors in the drum and they would be safe from pilfering until the collection process was complete.

With the solution fairly well in hand, the Team needed a plan to implement it since the costs of implementation would be a part of the justification phase of the problem/solution presentation.

Stuart called a meeting of all departments affected by the solution and senior production management personnel in order to make a preliminary presentation of their solution. A secondary motivation for this meeting was to gather together in one room the people with the authority to approve implementation procedures.

Since most of the department heads and some senior production people had been involved in the fact-gathering phase of the problem, there was almost unanimous approval of the solution. It was decided that the installation of the connectors would be done on a weekend in order to minimize any production interruptions. The pipefitters would install the fittings on the ship and the Maintenance Department would handle the installation of the fittings in the shops, river ways and other yard locations. It was determined that enough fittings were available for the portable manifolds and the collection effort, if successful, would provide the balance of the needs for the remaining outlets.

With the backing of the production people, Stuart and the Team members began preparing their information for the formal presentation to the Steering Committee and the top management of the yard. Several flip charts were prepared, a complete write-up of the solution was prepared and samples of the epoxy cement, as well as a demonstration manifold, were prepared in the meeting room for use in demonstrating the installation procedure and the holding power of the intended final installation.

<sup>4</sup>The materials and labor costs were calculated, then reduced to equivalent manhours so the comparison would be simple to present.

When all the material was prepared, the Steering Committee was notified and the meeting time was established.

The day and time of the presentation arrived and the Team was well prepared. The Steering Committee and the General Manager and his staff were present, as well as the heads of the departments affected.

Stuart presented the problem they had chosen to pursue and the basic statistics supporting the need to correct the situation. He explained the basis for determining the methods chosen for correcting the problem and the testing that the Team had gone through. Team members demonstrated the holding power of the new attachment method and demonstrated the installation technique.

They then turned to the flip chart and began to summarize the forecast effects of implementation of the change. The following information was displayed:

Current Costs:  $40 \text{ manhours/day} \times 250 \text{ days} = 10,000 \text{ MH/Year}$

Cost of Solution Implementation = 250 Manhours<sup>4</sup>

Return on Cost =  $10,000/250$  or 40:1, or

Payback of investment in 6.25 days!

The General Manager asked the department heads if they concurred with the information presented. The response from the department heads was affirmative since they had supplied the statistics used as the cost basis.

The Steering Committee responded that they felt the solution should be implemented immediately and the General Manager concurred. The Team was delighted with the response. They requested and received permission for work orders to be drawn up to accomplish the required work.

The Team requested that all department heads inform their people about collecting the outstanding air connections and proceeded to draft a letter to the employees informing them of the success of their problem/solution presentation.

The letter was issued and people notified of the collection procedure. Almost immediately air connectors started showing up in the collection drums and in a matter of one week over 200 connectors had been returned. This provided the amount required to complete the majority of the work in the yard.

The change over on the worksite took place the weekend following the presentation and was accomplished in less time than budgeted. The results of this solution were immediately visible to all the employees on the job and were received very favorably.

After 30 days of follow-up on the job not one air connection was missing which served as an indication of the quality of effort put forth by the Team.

# STUDY ACTION TEAM

## PROBLEM #2

During the problem submission phase<sup>1</sup> the majority of problems submitted concerning tools and equipment were those relating to the timely availability and accessibility of special tools frequently required by various crafts. The SAT Team felt that they should address this problem as soon as possible since its solution would have a broad impact upon production and give the Employee Involvement process a big boost.

The Team elected to determine exactly how the current tool room procedures operated in order to find ways of correcting the situation that resulted in "lost time going to the tool room for production tools".

Upon employment, each mechanic is issued a basic tool box which contains the essential tools required for normal duties. Any special tools required for particular jobs must be checked in and out of the tool room on a daily basis. When the tool is issued, a tool room chit is given to the mechanic along with the tool, and, at the end of the day, the tool is returned and the chit destroyed.

At the time the SAT began its work on this problem, the Yard was in the midst of a significant effort involving the reconstruction of two foreign flag vessels into U.S. flag vessels for use in the U.S. Navy's Maritime Prepositioning Ship Program. On foreign flag vessels metric sizes are the rule rather than the exception. Accordingly, additional metric tools were needed by most of the tradesmen. This situation resulted in a substantial amount of lost time going to and from the tool room during working hours checking out these and other tools.

The Team determined that the problem required discussions with a representative sampling of the hourly employees involved in the problem and with the heads of their departments. Several assignments were given to team members covering the basic points of information required for further evaluation of the problem:

- a) Two members were assigned to determine the average length of time required to travel from the work place to the tool rooms, including the time necessary to check out tools and return to the active worksites.
- b) Four team members were assigned to interview employees in the various crafts to determine the frequency of trips to the tool room and the types of tools checked out.
- c) The remaining team members were to interview department heads and supervision to insure that all aspects of the problem were being considered.

The major issues needing input from the production departments were:

- a) The number of people who checked out tools.
- b) Frequency of the need for checking out tools by the group in a) above.
- c) Departments with high requirements for tool check out.

<sup>1</sup>See Problem/Volunteer Selection and Assignment Section.

<sup>2</sup>See Study Action Team Problem #1, this section.

- d) Specific details concerning the actual tools checked out (type, size, etc.).

- e) System or procedures which affect these check outs and potential for changes to simplify task.

Once this information was collected and evaluated by the Team they could identify the specific approaches for producing a preliminary solution.

The data collection took about two weeks and, at the end of this period, the Team had gathered all the necessary information, qualified it by cross checking information with tool room records and by discussing the data with various supervisors and department heads in the yard.

The Team now felt they were ready to present their findings along with a preliminary solution to senior production management in the yard and to solicit their collective opinion of the quality of their conclusions.

Stuart requested a preliminary presentation meeting with the department heads affected by the decision as well as the senior ship superintendents and tool room management.

With the experience of his first presentation behind him<sup>2</sup>, Stuart had the visual aids prepared and all the significant data typed and in the form of preliminary hand outs for the guests. As he stood in front of the group of production managers, he sensed an atmosphere of tension and possibly some hostility on the part of the people ready to hear the presentation.

Stuart began by introducing the Team members to the group and having the guests introduce themselves. After the introductions, he explained why the Team was working on the problem of "tools and equipment availability" and explained that a large number of hourly employees had complained about the lost time going to and from the tool rooms for tools on a daily basis. He also indicated that substantial production time was lost because of this extensive travel away from the job during production hours.

He immediately received response from the invited guests who were not inhibited by the presence of any senior management people in the room. Some of the production people volunteered that the problem was not that great and that it had been highly exaggerated. Others volunteered that it had always been that way and couldn't be changed. Still others said that you couldn't "buck the system".

When the responses quieted down, Stuart remarked that the same thoughts had been expressed by the Team members until they had explored the problem and its consequences. He went on to explain that the Team had researched the extent of the problem and felt that because of the size of the problem, they could provide alternatives.

Stuart then turned to the flip charts at the front of the room and displayed the details of the problem. The chart had listed the departments, number of people affected, and the amount of lost time resulting from the current methods as follows:

**DEPARTMENT # AFFECTED LOST TIME/DAY (hrs)**

Welding	57	47.5
Electrical	8	6.3
O/S Machinists	20	15.0
Carpenters	25	13.3
Hull:		
Fitters	78	78.0
Grinders	11	8.25
Pipe	60	41.0

Total 209.0 hrs/day

Stuart then added that this data reflected 50,000 manhours per year lost time, a situation that demanded corrective action.

The guests were visibly impressed with the analysis and were ready to discuss the Team's remedy.

Stuart indicated that the Team had suggested as a solution that a portable tool room be constructed and stocked with the necessary tools and be placed at the site of the major work in the yard (800' Pier).

He suggested that a small building approximately 12' x 16' would be adequate to house all the necessary tools and also be large enough to allow a toolroom keeper to occupy the building.

The Foreman of the Welding Department volunteered that he had an extra welding rod storage building of the desired dimensions that he could donate if the Team could locate some storage space elsewhere in the yard. He said that the cost for modifying the building would be far less than constructing a new facility and would also speed up the availability of the portable tool room.

Stuart indicated that the Team would check into the building in question, determine the cost for renovation and use it as the cost basis for implementation of the solution.

The guests were then asked if they found any problems with the cost data or the suggested solution. Suggestions were made concerning construction procedures which should include padeyes for lifting and access ladders for attaching lifting chains. Additional suggestions were made to insure that the cost for stocking the building would be included in the implementation cost.

The guests then complimented the Team on the thoroughness of their work and wished them success in their final presentation to upper management.

The Team next developed the design of the building and researched what tools would be needed for stocking the portable tool room. They took their designs to the construction departments and requested quotations on the necessary modifications which would be used for the cost basis for their solution presentation.

With all the necessary information in hand, the Team began preparing the formal write-up of their solution and implementation plan which they would distribute to the Steering

Committee and invited guests prior to the formal presentation. Additionally, they prepared visual aids for presentation purposes and prepared the meeting room to receive the invited guests.

Stuart then requested the EI Staff to contact the Steering Committee and request a time for the presentation.

The day of the presentation arrived, and the guests arrived at the appointed time. The General Manager and his staff, the Steering Committee and selected Department Heads were present.

Stuart had been selected by the Team to make the presentation since he was now experienced with the presentation techniques, having presented the solution informally to the yard supervision. He began the presentation by describing the problems submitted by the employees and the investigative work done by the Team confirming that substantial lost time occurred going to and from the existing tool rooms for tools on a daily basis. He presented the graphic information detailing the cost to the yard in manhours (209 manhours per day), and went on to describe the solution which was to construct a portable tool room to be located at major construction sites.

He summarized his presentation by presenting the final economic justification:

Current costs — 200 manhours/day x 250 days = 50,000 manhours/year

Solution cost = \$1,500.00 + 300 manhours or 425 manhours

Payback period assuming 100% effectiveness = 425/200 or total payback in slightly more than 2 days!

Stuart went on to indicate that there would still be a need to travel to the tool rooms by some employees for special tools or tools which could not be stored in the new portable tool room. Still, he remarked, if the solution is only 50% effective the payback would still take less than one week.

Since one of the yard tool rooms could be closed down, he noted that there would be no additional cost to man this new tool room. All that remained was for management to determine if the solution and implementation plan, as submitted, could be justified on the basis of the information collected.

The Steering Committee and the General Manager and his staff consulted for a few moments and then made their recommendations. They said that they wanted this solution implemented immediately and that they wanted the SAT to do the actual work on modifying the building to insure that the work was accomplished in the manner they described and in the time frame that would maximize the savings from this solution.

The Team was issued a work order and the authorization to procure the needed materials and began the work to modify the tool room. Within 6 working days the tool room was modified, stocked and on-site, ready for use. The solution proved to be very popular with the employees and was visible evidence of employees having a voice in providing productivity improvement ideas to management and receiving management backing.



## SECTION VIII

# SUSTAINING THE PROCESS

The nature of the Beaumont Yard Employee Involvement process featured two characteristics which placed special demands upon those people facilitating the process. Those elements were:

1. **Rapid problem solutions (results orientation)**
2. **Self-destructing teams<sup>1</sup>**

**Rapid problem solutions:** The task and purpose of the Employee Involvement process were to provide productivity improvements which would have immediate effect on yard operations and help put the Yard in a more competitive position in the industry. A further motivation for rapid problem solutions was a need to prove to the employees that EI would work for them and that the visible evidence of problem solutions being implemented would help sustain the process.

**Self-destructing teams:** The purpose for using self-destructing teams was to provide an opportunity for all employees wishing to become involved to do so. It was felt that within the constraints of a limited budget the program would "pay as you go" with each team contributing to the success of the process and providing the impetus for training and forming new teams. In this fashion, all those employees with a desire to participate could become part of the effort without the need to train the whole yard at once.

Also, with the knowledge that they would one day be part of the effort, the team rotation method prevented the "ins and outs" atmosphere that often pervades a system where teams are permanent and only a select few participate in the process.

**A. FACILITATORS:** Facilitation of the teams' efforts from their inception was an absolute necessity given the parameters of the process. Since teams met for two hours per week, off the job, in a classroom, it was necessary for at least one of the facilitators to be in attendance throughout each team meeting.

Because of the emphasis upon rapid problem resolution, the facilitators provided direct assistance to the teams supplying the needed outside resources necessary for data input to solutions. This freed the teams up to concentrate on their classroom and on the job site fact gathering. The facilitators provided scheduling and marshalling of technical and administrative assistance and set up all informational meetings for the teams.

All correspondence, internal and external, was provided by the EI Staff (facilitators). Because there was a full-time team meeting daily (The Study Action Team) additional challenges were thrust upon the Staff since at least two, and most times four hours, per day were spent with either classroom facilitation or on expediting resources for the team.

<sup>1</sup>When a team solved its problem it was dissolved and replaced by a new team with a new problem.

The EI Staff usually provided the graphic presentation expertise for formal presentations since those skills were not always available internally to the teams. Additionally, the Staff provided guidance concerning statistical methods for fact gathering and presentation and acted as the "devil's advocate" when reviewing data gathered for solution presentations.

Yard communications, including the Employee Involvement Newsletter, a periodic news publication used to update the employees on the latest EI developments, communications with the consulting firm and any other internal or external communications were handled by the EI Staff.

**B. INFORMATION GATHERING:** Initially there was some reluctance on the part of the hourly team members to approach management during the fact-gathering stages of problem solutions. Usually, after one such trip this problem disappeared and, as they gained experience, they became excellent interviewers.

Some problems developed with supervision and some middle managers as the process matured. Because of the quality of the problem solutions, and the uncovering of much inefficiency within some departments, some managers were reluctant to make full disclosures of data required by teams. This circumstance provided a challenge to the team members and they would then dig deeper until they received the necessary data, usually from alternate sources. The "turf protection" syndrome was never fully dissipated during the process. A few supervisors and a few middle managers remained aloof to the Employee Involvement process and at best gave "reluctant" support.

In the quest of problem solutions, one technique was consistently applied with great success. Early in the development of the EI program when a team felt they had a sound basis for a problem solution, but had not gathered all the supporting information, they called in the supervisors and as many of the affected middle management as possible to critique their progress. This method brought to the group a small number of management people with a great deal of experience with the particular problem, and once they learned the quality of the effort the teams were putting forth, they became very interested in the solution and provided invaluable information and help in resolving the issue. Additionally, once they became committed to the problem solution, they became an important asset, supporting the final solution. They had "bought in" to the solution and thus became "stake holders" in the process.

**C. PRESENTATIONS:** When all the facts had been gathered and marshalled into an effective presentation, the Staff called a presentation meeting with the Steering Committee. Usually, the Steering Committee would invite top



management. The team would request that the leaders of the departments affected by the problem solution be in attendance.

Because of the training received by the teams and their supporting staff the formal presentation of problem solutions was done in a very professional manner. The teams looked forward to "presentation day" as a major occasion and this was reinforced by the importance placed on problem solutions by management. The presentations made by the Employee Involvement Teams were some of the best, well planned and professionally executed that had ever been done at the Yard.

**D. PROCESS RESOURCES:** Invaluable to the Employee Involvement process at the Beaumont Yard, the Steering Committee proved to be the catalyst that kept the process together. The Co-chairmen of the Committee seemed to be involved in some part of the process almost on a daily basis and really assisted in smoothing out the process. Whenever resistance was encountered from members of production management, or elsewhere in the organization, members of the Steering Committee could be counted upon to smooth the way for Employee Involvement.

The consultants provided the third party expertise necessary to initiate and sustain the process. They were always available for guidance and provided excellent on-site facilitation assistance. When road blocks occurred, they had the ability to nego-

tiate resolution of matters that could not be handled internally. When the process seemed to slow down, they had the ability to "light fires" under those involved and revitalize the effort.

Early in the process the consultants indicated that ultimately they would not be necessary to the process, since they would impart all the training on the local staff necessary to sustain the effort. This proved to be true as it related to day to day activities. However, the short duration of the Employee Involvement Process at the Beaumont Yard put the consultants in the situation where they assisted in the phase out of the process as business conditions deteriorated.

**E. ENDING EMPLOYEE INVOLVEMENT (TEMPORARILY):** Because of a rapid decline in business, layoffs among the hourly workforce began four months into the Employee Involvement effort. When this situation became evident, teams that had solved their problems disbanded and were not replaced. Finally, the Study Action Team was the only team operating when the last force reduction came. At that time, the SAT was dissolved and the EI effort was temporarily suspended.

Prior to the first team layoffs, a "thank you" luncheon was held, and the General Manager addressed all participants conveying the thanks of the Company and certificates of participation were given to those present.

## SECTION IX

# RECOMMENDATIONS

Based upon the experience gained through participation in Employee Involvement at the Beaumont Yard the following recommendations are made:

1. The partnership with the Union in the EI process proved to be a major factor in sustaining the process. Union leadership attended Team training sessions, management orientation classes and Team meetings. They were active supporters of the process and helped reinforce commitment to Employee Involvement. A full partnership with the unions in any effort of this type is recommended.

2. In an effort to obtain a broad representation on the Planning and Policy Council, 16 members were chosen, eight Union, and eight Management. It became exceedingly difficult to bring this number of people together at the same time because of schedule conflicts. A recommendation for a smaller number, very highly placed in their organizations, is made.

3. The Steering Committee should have strong dedicated people from management. The management members should have a strong manufacturing or technical background and be highly placed in the organization. The Union members should be chosen on the basis of their ability to rationally support changes that are proposed and to provide a balance with the management members. The Beaumont Yard process had the people as noted above and was successful as a result.

Because Employee Involvement Steering Committee membership thrusts union members into a delicate decision-making posture, one with which they may be unfamiliar, and one

which can be intimidating even to someone with experience, it is recommended that the choice of Union Steering Committee members be given serious thought. Management Steering Committee members may have a tendency to intimidate and thus inhibit a balanced approach to problem solutions. It is critical that the Union Steering Committee members participate equally with their management counterparts.

4. The Beaumont Employee Involvement process, designed for problem solutions developed in a classroom setting and working essentially outside the mainstream of Yard activities, would be difficult to sustain over an extremely long period of time. Once the obvious problems have been solved and the easy solutions are gone, maintaining a high level of enthusiasm would be extremely difficult. The Beaumont process was designed to bring in as many people as possible to the program and to begin to implement the more challenging phases of Employee Involvement, such as: Multi-craft Work Groups or Semi-Autonomous self-managing work groups, employing some of the latest production control developments, including accuracy control techniques. Additional options must be available to sustain the effort over a long period of time.

5. The last recommendation is by far the most important to the whole process. There must be absolute top management support for the process if it is to succeed. This support must be visible, active and more than mere words. It must be sustained by showing up for problem-solution presentations, written in company communications and spoken often in staff meetings. The message must be delivered with consistency. Without this support, the effort is doomed.

**APPENDIX A**  
**BETHLEHEM STEEL CORPORATION**  
**BEAUMONT YARD**  
  
**MEMORANDUM OF UNDERSTANDING**  
**EMPLOYEE INVOLVEMENT EXPERIMENTAL AGREEMENT**

The strength and effectiveness of an industrial enterprise in a democratic society requires a cooperative effort between labor and management at several levels of interaction. The parties hereto recognize that if Bethlehem's Beaumont Shipyard employees are to continue among the best compensated shipyard employees in the world and if Bethlehem's Beaumont Shipyard is to continue to meet domestic and international competition, the parties must pursue their joint objectives with renewed dedication, initiative and cooperation.

Collective bargaining has proven to be a successful instrument in achieving common goals in the employment relationship between Bethlehem's Beaumont Shipyard labor and management. However, there are problems of a continuing nature at the level of the worksite which significantly impact that relationship. Solutions to these problems are vital if the quality of work life for employees is to be enhanced and if the proficiency of the business enterprise is to be improved.

The parties recognize that a cooperative approach between employees and supervision at the worksite in a department or similar unit is essential to the solution of problems affecting them. Many problems at this level are not readily subject to resolution under existing contractual programs and practices, but affect the ongoing relationship between labor and management at that level. Joint participation in solving these problems at the worksite is an essential ingredient in any effort to improve the effectiveness of the Company's Beaumont Shipyard and to provide employees with a measure of involvement adding dignity and worth to their work life.

In pursuit of these objectives, the parties believe that the Local Unions and Management at the Yard can best implement this cooperative approach through the establishment of Employee Involvement Teams of employees and supervision in departments or similar units at the Yard. Accordingly, it is agreed that the following experimental program will be undertaken with respect to Employee Involvement Teams:

(a) Yard Management and the Metal Trades Council, the Pipefitters, and the Machinists Unions will determine the date during the term of the Basic Labor Agreement on which the process covered by this Experimental Agreement shall commence.

(b) An Employee Involvement Committee will be established in the Yard consisting of appropriate members of Yard management and the Metal Trades Council, the Pipefitters, and the Machinists Unions, to coordinate the activities of the Employee Involvement effort at the Yard. An Employee Involvement Team will be made up of a Management Co-Chairman, and Employee Co-Chairman, and Employee

and supervisory members of the department or unit. Employee members and supervisory members need not be equal in number, and may be rotated periodically to permit broader employee involvement. Team members will be volunteers from among the employees of a department or unit and such members will choose their Employee Involvement Team Co-Chairman.

(c) The Yard management shall select a person to be designated as a Management Employee Involvement Coordinator. In addition, the Metal Trades Council, the Pipefitters, and the machinists Unions shall select a person to be designated as a Union Employee Involvement Coordinator. These two coordinators shall be jointly responsible for training, administration and communications related to the Employee Involvement Process and shall report to the Employee Involvement Committee Co-Chairmen on all matters pertaining to employee involvement activities.

(d) Each employee member of an Employee Involvement Committee or Team shall be compensated for time spent away from work in Committee or Team activities at the member's hourly base rate of pay plus applicable COLA.

(e) Employee Involvement Team meetings shall be called by the Co-Chairmen during normal working hours as often as the team members agree. An Employee Involvement Team shall be free to discuss, consider and decide upon proposed means to improve department or unit performance, employee morale and dignity, and conditions of the worksite. Appropriate subjects, among others, which a Team might consider include: use of production facilities, quality of products and quality of the work environment, safety and environmental health, absenteeism and overtime, contracting out, energy conservation and transportation. The Employee Involvement Committee and the Employee Involvement Teams shall have no jurisdiction over the initiation of, or the processing of complaints or grievances. The Employee Involvement Committee and the Employee Involvement Teams shall have no authority to add to, detract from, or change the terms of the Basic Labor Agreement.

(f) An Employee Involvement Team shall be free to consider a full range of responses to implemented performances improvement, including but not limited to bonus payments.

(g) The Employee Involvement Experimental Agreement shall remain in effect from year to year during the term of the Agreement unless the Metal Trades Council, the Pipefitters and the Machinists Union shall cancel their participation in the program by providing the Management with thirty days notice of cancellation.

## APPENDIX B

### CHRONOLOGICAL LISTING OF EMPLOYEE INVOLVEMENT EVENTS

- |       |                                                                                                                                                                                                                                                                                                                                                                               |       |                                                                                                                                                                                                                                                                                                                                                       |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 08-82 | Memorandum of Understanding attached to Beaumont Labor Contract.                                                                                                                                                                                                                                                                                                              |       | <b>groups.</b> Letter to employees from General Manager outlining "off-site" decisions.                                                                                                                                                                                                                                                               |
| 03-83 | Employment upturn justifies preliminary discussions concerning LMPT; Unions decline.                                                                                                                                                                                                                                                                                          | 07-84 | Union-Cornell "off-site" meeting held.                                                                                                                                                                                                                                                                                                                |
| 05-83 | Beaumont Yard represented at National Workshop on Social Technologies in Shipbuilding held at MITAGS in Maryland.                                                                                                                                                                                                                                                             | 08-84 | Initial meeting of Labor/Management Policy and Planning Council held jointly with Cornell Consultants to plan detailed activities and procedures.                                                                                                                                                                                                     |
| 06-83 | VP/MCG to Beaumont to discuss LMPT concepts with Union Business Agents.                                                                                                                                                                                                                                                                                                       |       | Union President and Beaumont Shipyard Industrial Relations Manager selected as co-chairmen.                                                                                                                                                                                                                                                           |
| 09-83 | VP/MCG meets with Union Business Agents, tells them that BSC will proceed with LMPT. Unions agree that BSC select an external consultant.                                                                                                                                                                                                                                     |       | Letter to employees from co-chairmen outlining council decisions.                                                                                                                                                                                                                                                                                     |
| 11-83 | Beaumont top management attend LMPT seminar at Bethlehem, Pennsylvania, for an update on Corporate LMPT progress. They visit Sparrows Point Shipyard and attend a "problem-solving team" meeting.<br><br>BSC screens potential LMPT consultants and submits list to Beaumont Yard.<br><br>Beaumont Yard interviews potential candidates and selects Cornell University group. | 09-84 | Employee Involvement (EI) Director, EI Specialists (full-time), Steering Committee all nominated and agreed to by unions and management.<br><br>EI Specialists attend LMPT-EPG training at Home Office in Bethlehem, Pennsylvania.                                                                                                                    |
| 12-83 | Beaumont agrees on an approach developed by Dr. Peter Lazes of Cornell. Lazes meets with representative of all nine Shipyard Unions; they agree to accept him as the external consulting firm.                                                                                                                                                                                | 10-84 | Letter from Policy and Planning Council co-chairmen announcing EI Staff to all employees.<br><br>First local training of Staff and Steering Committee by Cornell group.                                                                                                                                                                               |
| 01-84 | Cornell Consultants visit Beaumont Yard for initial LMPT "Readiness Assessment". Discussions held with both management and unions.                                                                                                                                                                                                                                            | 11-84 | Continued training by Cornell for Staff and Steering Committee.<br><br>EI Specialists attend Second National Workshop on Human Resources Innovation in Shipbuilding at MITAGS and present progress to date.                                                                                                                                           |
| 02-84 | Letter to employees, co-signed by Beaumont General Manager and Unions discussing progress to date and plans for the future.<br><br>Cornell Consultants conduct interviews with 20% of the Beaumont Yard work force (salaried and hourly) in order to determine the necessary type of intervention.                                                                            | 12-84 | Planning and Policy Council meeting to review progress and to agree upon details of further development.<br><br>Supervisory orientation to make all members of management aware of the implications and effects of new LMPT/EI policies.<br><br>Letters to all employees bringing them up to date and soliciting problems and volunteers for process. |
| 03-84 | "Organizational Assessment" report presented to the Beaumont Yard management with summary and analysis of 234 interviews conducted in February.                                                                                                                                                                                                                               | 01-85 | Problems received, evaluated and prioritized by EI Staff.<br><br>Volunteers screened, cleared through production management.                                                                                                                                                                                                                          |
| 04-84 | Beaumont Management meets "off-site" for three days where 20 members of upper management reviewed progress to date and agreed on a suggested course of action for the future.<br><br>Key decision was to postpone implementation of <b>multi-craft teams and self-governing work</b>                                                                                          | 02-85 | EI Staff present 19 problem sets with recommendation to Steering Committee.                                                                                                                                                                                                                                                                           |

- Steering Committee prioritizes problems, selecting seven of nineteen as initial thrust.
- Steering Committee selects problem-solving team members for Employee Involvement Teams (EIT's), and Study Action Team (SAT). Selections based upon needs presented by problem set.
- Training of EIT-SAT begins (3 days - 8 hours per day).
- 03-85 EIT-SAT begin work on problem-solving, holding two hour per week meeting "off-the-job". SAT Team meets regularly 8 hours per day, 5 days per week, addressing large multi-faceted problems.
- 04-85 Pipe Hanger Team presents problem solution.
- SAT Team present Air Connection Problem Solution.
- Steering Committee meets to evaluate progress.
- 05-85 Materials Team presents Welding Electrode Solution.
- Day Shift Materials Team presents "Pipe Materials" problem solution.
- SAT Team presents "Tool Availability" solution.
- 06-85 Safety Team presents "Foot Injury" solution.
- Testing Team presents "Testing Solution".
- EI Staff and Beaumont Yard Assistant General Manager attend PS-5 meeting in Chicago and give progress-to-date presentation.
- 07-85 Awards luncheon; diplomas presented to EIT and SAT Teams, EI Staff, Steering Committee. General Manager thanks each employee for effort-to-date.
- Declining order backlog and reduction in work-force requires reduction in EI effort.
- EI Teams dissolved as problems are solved. SAT Team continues to work on their problems, and follows up on solutions of EI Teams.
- 08-85 SAT Team dissolved as Labor Contract expiration approaches and immediate future is unclear. Employee Involvement Program is temporarily suspended, pending upturn in workload.

## APPENDIX C

### LISTING OF UNIONS REPRESENTING BEAUMONT YARD HOURLY EMPLOYEES

Local No. 753  
United Brotherhood of Carpenters and Joiners of America  
Beaumont, Texas

Local Union No. 390  
International Brotherhood of Electrical Workers  
Port Arthur, Texas

Local No. 587  
International Brotherhood of Boilermakers, Iron Shipbuilders,  
Blacksmiths, Forgers and Helpers  
Orange, Texas

Local No. 243  
Painters and Allied Trades  
Beaumont, Texas

Local Union 920  
Teamsters, Chauffeurs, Warehousemen and Helpers of  
America  
Beaumont, Texas

Local 395 of District 31  
International Association of Machinists  
Port Neches, Texas

Local No. 195  
United Association of Journeymen and Apprentices of the  
Plumbing and Pipefitting Industry of the United States and  
Canada  
Beaumont, Texas

Local No. 450  
International Union of Operating Engineers  
Nederland, Texas

Local No. 853  
Laborers International Union of North America  
Port Arthur, Texas

## APPENDIX D

### SUMMARY OF PROBLEM-SOLVING TEAM RESULTS

#### EMPLOYEE INVOLVEMENT TEAM PROBLEMS AND SOLUTION RESULTS

TEAM	PROBLEM	SOLUTION RESULTS
#1	Pipe Hanger Availability	Saved 25,000 manhours/yr
#2	Welding Rod Availability	Saved 12,500 manhours/yr
#3	Pipe Materials temporary storage	Saved 33,000 manhours/yr
#4	Foot Injuries	6,250 manhours/yr <sup>1</sup>
#5	Craft Scheduling	Problem not solved
#6	Testing Procedure	Problem solved— no economic justification required <sup>2</sup>
SAT	Air Connections	Saved 10,000 manhours/yr
SAT	Tool Availability	Saved 50,000 manhours/yr
Total program saved approx.		130,000 manhours/yr <sup>3</sup>

The program results summarized above were based on savings calculated with the assumption that a 1,000 man workforce would be in place for a full year after implementation of the individual solutions. These conditions did not evolve since the Yard workforce was ultimately reduced to about 100 employees by the end of September 1985.

Since most of the solutions were implemented during April and May of 1985, the Yard did enjoy the full benefits of the Employee Involvement problem solutions for at least four to six months.

## APPENDIX E

### PROBLEM-SOLVING TECHNIQUES

A. **Brainstorming:** Solving problems in groups is based on the premise that collective thinking is often more powerful than individual thinking. An excellent technique for generating original ideas in a group is called **Brainstorming**. The objective of Brainstorming is to rapidly generate a large number of ideas using the group's creative thinking. The more ideas the group comes up with the better. With many ideas to choose from, the possibility that high quality ideas will result increases.

The key to successful Brainstorming is the notion of "suspended judgment". This means that no one is allowed to criticize or comment on anyone's ideas as they are mentioned, no

matter how unconventional or offbeat an idea might seem. Instead, evaluating ideas is held off — or suspended — until later. During a Brainstorming session, it's important that people feel free to contribute whatever ideas come to mind. Only after all possible ideas have been listed on a flip chart and then clarified are ideas judged for their merits or shortcomings. If ideas are received in an open, nonjudgmental atmosphere, members will be more likely to share ideas that they have not yet fully developed.

For best results, the following ground rules should be followed during group Brainstorming sessions:

<sup>1</sup>Solution not implemented by management.

<sup>2</sup>Solution was a reorganization of Yard testing procedures.

<sup>3</sup>Total does not include Item #4.

- No criticism or judgment of ideas is allowed!
- Be creative — encouraging offbeat or far-fetched ideas may trigger more practical ideas.
- Brainstorm as many ideas as you can.
- Combine and build off the ideas of others.
- Write all ideas clearly on a flip chart.
- Number ideas for easy reference.

**B. 6 Step Problem-Solving Process:** The Six-Step Problem-Solving Process provides a systematic procedure for identifying, analyzing and solving all types of problems we encounter at work or in our home life. Experience shows that problems are easier to solve, and the results more successful, when problems are approached in a systematic and logical way.

It's best to think of the process as an overall guide or "roadmap". It points the way for tackling difficult problems in an orderly, step-by-step manner.

A problem exists when something has gone wrong. When viewed positively, a problem is really an opportunity to turn a bad situation into an advantage by making needed improvements in work methods and practices. A problem may very well turn out to be a blessing in disguise.

Following is a breakdown of the **6-Step Problem-Solving Process** as it was used in the Beaumont Yard Employee Involvement training and in the actual solution process in the yard:

**Step 1:** Identifying the problem is the most critical step of the problem-solving process. Starting off on the right track by developing a clear and accurate statement of the problem is essential if the problem is going to be solved successfully. Several traps await the unsuspecting problem-solver in Step 1: jumping to conclusions about what the problem is; defining the problem in terms of a solution; writing a vague or generalized problem statement. Being aware of these common pitfalls will help members of a group avoid getting sidetracked as they begin investigating their problem in more depth.

Step 1 is completed when an objective problem statement has been developed. Try to state the problem as precisely as possible. Clearly specify what it is you're trying to improve. Think of the problem as an "undesirable condition to correct". Focus efforts on developing a concise, single-sentence statement of the problem with which everyone in the group can agree.

**Step 2** is the fact-finding phase of the 6-step problem-solving process. It is here that the problem situation is closely examined to identify the basic causes underlying the problem. Questions such as "What stands out about the problem?" "What information do we have now?" "What additional information do we need?" "How can we best obtain this information?" should guide the group's efforts during Step 2.

As they begin analyzing their problem, they organize their investigative activities into a team project. Carefully planning data collection tasks, responsibilities and time frames will keep their problem-solving efforts coordinated and on track. It

is essential to bring an open mind to the investigation. Question any assumptions being made about the problem and its causes. Make sure they are not unconsciously fitting the facts to a preconceived view of what the problem is. Talk to people involved. Get their opinions about what might be causing the problem. Conclude this step by reaching a group consensus about what the problem is and its principle causes.

**Step 3:** After thoroughly analyzing their problem in terms of causes and effects, it's now time to begin thinking of potential solutions. Before proceeding, briefly review and discuss the results from the information gathered in Step 2. A quick summary of this data will help keep the group on the right course as they begin the search for the best solution to the problem.

The objective of Step 3 is the generation of solution alternatives. Don't worry about judging how workable an idea might be at this point. Just try to come with as many solution options as possible. Consider all possible avenues for solving the problem. Don't stop coming up with alternatives even if a good idea has already been suggested. Resist the temptation to go with the first solution that seems workable. The more ideas to choose from, the better the chances are of coming up with the best solution to the problem.

It's important when Brainstorming possible solutions to create a supportive group climate that encourages all members to express their ideas, even if not fully worked out. Hold off all evaluative comments until Step 4. That's the time to consider the merits and shortcomings of each idea.

**Step 4:** After Brainstorming a list of potential solutions, they're ready to decide which option, or combination of options will best solve the problem. Step 4 consists of: (1) selecting the best solution to the problem; and (2) developing a plan to implement the solution and evaluate its effects.

To make the final choice easier, start by drawing up a list of key criteria or requirements against which to measure each solution option generated in Step 3. Then discuss the pros and cons of each option, using these criteria as a yardstick. Instead of discarding options which don't fully measure up to the criteria, look for ways to combine the best parts of several ideas to make an even better alternative. Base the final decision on how well the option selected meets the criteria established for a high-quality solution.

Once group consensus has been reached on the best solution, develop a preliminary action plan for putting the solution to work and how people affected might react to changes being introduced. Be sure to include in the action plan a strategy for monitoring and evaluating the effectiveness of the solution once it is implemented.

**Step 5:** This step consists of finalizing and carrying out the action plan developed in Step 4. Having an action plan organizes the specific tasks, assigned responsibilities, and completion dates necessary to successfully put the solution in place. Effective implementation of a group's action plan is essential if recommended changes are to take hold and gain acceptance. Good communication as to the purpose of the changes being introduced, and how those changes will benefit people affected, is also important if changes are to be favorably received.

As a team goes about introducing changes in the work area, it should be sensitive to the impact those changes will have on others. Make sure everyone understands what the group is trying to accomplish. Get their ideas on how to make the solution work better. Involving people affected by changes will help insure greater receptivity and commitment on their part.

Finally, be prepared to make needed modifications in the action plan as circumstances warrant. Anticipate possible problems that might be encountered as changes are implemented. Forward planning here can make the transition from the old way to the new way smoother and less disruptive.

**Step 6:** Evaluating a solution's effectiveness is necessary to

determine if the solution has successfully solved the problem. At times it is difficult to predict exactly what impact a solution will have before actually trying it out. Continuous tracking and monitoring provides the needed data to determine if real progress is being made as planned in solving the problem.

Unfortunately, evaluation is the most neglected step of the problem-solving process. Many groups, anxious to move on to the next problem, often assume mistakenly that putting a solution in place automatically means that the problem is solved and will stay solved. No problem is really solved until the solution is permanently integrated into existing work routines. Constant attention and follow-up is required to insure that the solution is being used by people in the work area.

## APPENDIX F DISCUSSION PAPERS

### PAPER NO. 1 SUBMITTED BY J. B. "HANK" GERLACH, MARE ISLAND NAVAL SHIPYARD

The perseverance that carried the problem-solving team (study/action team) effort through to fruition represents a commendable effort by both management and labor at the Bethlehem Beaumont Yard. The ability to maintain momentum in this collaborative venture during the conditions described (i.e., foreign competition, reduced offshore drilling, workload reductions, etc.) represents a sizeable step forward and a growing maturity in the labor-management relations that ultimately evolved at the Yard.

The classic environment that nourishes human resource innovations was not apparent at the Beaumont Yard during the life of this project. For this reason, it is not readily understood why the "interventions" suggested to address issues identified in the "up-front" assessment of the organizational climate of the company included three separate initiatives: (1) multi-craft self-managing work groups; (2) single department, self-managing work groups; and (3) study/action teams. Of the three, study/action teams (problem-solving teams, including quality circles) had been achieving varying degrees of success in many industries at that time, while the jury was still out on multi-craft and self-managing work group concepts; especially as applied to adversarial labor-management conditions as described in the report. Because of the probable success provided by the study/action team approach, it alone should have been proposed and pursued at the start, reserving the multi-craft and self-managing work groups for a time when a more mature labor management condition existed; and if/when a more solid workload picture evolved.

The report provides an overview of the typical hurdles to be overcome when embarking on a program such as this. Although expediency appeared to be the order of the day, it is

suggested that the time required from "idea to implementation" of the participative management concept at Beaumont (1982-1985) was excessive. The fact that it did ultimately bear fruit again is a tribute to the tenacity of the parties involved. Once implemented, the problem-solving teams achieved almost instant success in their study efforts. Considering the state-of-the-art of team problem-solving "technology" that exists today, a program such as that implemented at the Beaumont Yard might be achieved in something less than a year's time; with due consideration for the varied work environments that now exist in many companies.

The techniques and case studies described in the report generally represent the classic procedures now in use where problem solving teams (and quality circles) are being successfully employed. While the process provides both tangible and intangible rewards to a company, a step often overlooked is to insure that any cost savings achieved is factored back ("institutionalized") into the budget/bid process for future work. This is especially true if one of the major goals is to improve the competitive posture of the company. This step was not clearly identified in the report, but should be considered when planning the process.

Bethlehem Beaumont has proved that the team problem solving approach can work, even under less than ideal conditions. Although the implication is that participative management represents "an idea whose time has come" too late at Beaumont (which remains to be seen), it is working in companies throughout the country, and can be successfully applied with proper planning and where a mature labor-management and cultural environment is maintained.

**PAPER NO. 2 SUBMITTED BY GREGORY L. SCHWEI,  
INTERNATIONAL FEDERATION OF PROFESSIONAL/TECHNICAL ENGINEERS,  
LOCAL 25, VALLEJO, CA**

Congratulations to Bethlehem - Beaumont Yard for their brave venture into employee involvement/participatory management. Author K. Smith performs a creditable task in providing a chronology of employee involvement at Beaumont. The author of the report commences with a quote from Victor Hugo (must have been a Union man). Unfortunately the quote portends the swan song of Beaumont as opposed to a new beginning. What is missing from the Beaumont experience is "lessons learned".

The primary "lesson learned" should have been employee involvement/participatory management is an "all-or-nothing" adventure. The Union needs to be totally involved with management in the decision-making process. The Union is not the "white-man's burden" of management. This attitude toward the Union is evidenced in the chronology. 18m elapsed from the Memorandum of Understanding (Aug. 82) to the Union-management letter to employees (Feb. 84). The philosophy of Workplace Systems, the consultant, is employee involvement needs full participation by the Union to be implemented in the workplace. Management needs to present employee involvement as a "win-win" situation to the Union. Management also needs to recognize employee involvement is part of total Union participation in the workplace.

The next example of the timid approach to Union participation is another 6m elapsed until the Labor/Management Policy and Planning Council evolved at Beaumont (Aug. 84). During this time management alone made the decision to initiate problem-solving teams. Also management alone sends a letter informing employees of the management decision.

Management finally gets down to the "deckplates"; yet, another 5m have elapsed, when supervisors and stewards are

trained (Jan. 85). 29m have passed since the Memorandum of Understanding was agreed by the Parties in Beaumont — elephants take 24m.

As the Beaumont experience is a source of "lessons learned", it would have been helpful if there was better delineation of the rating system. Author K. Smith delineated: training, teams-in-action, chronology, and problem-solving techniques. A "walk-thru" of the priority rating system by the author would be welcomed by this discussor.

An exception is taken to the fourth recommendation of the author. In part the author feels enthusiasm would be difficult to maintain in the workplace "once the obvious problems have been solved, and the easy solutions gone...." As technology changes the workplace changes. As the workplace changes, there will be new obvious problems. It is sophomoric to envision a workplace without problems. As Beaumont management becomes sophisticated in recognizing the capabilities of the Union and its members, the workplace may evolve into a more challenging environment with multi-craft work groups and semi-autonomous self-managing work groups described by the author.

The beginning of the Beaumont report quoted Victor Hugo. I shall close this discussion on the report with a passage from William Shakespeare (substitute management for "men"):

"There is a tide in the affairs of men,  
Which, taken at the flood, leads onto fortune;  
Omitted, all the voyage of their life  
Is bound in shallows and in miseries.  
On such a full sea are we now afloat;  
And we must take the current when it serves,  
Or lose our ventures."

**PAPER NO. 3 SUBMITTED BY DAN SILVERTON, PRESIDENT  
FEDERAL EMPLOYEES METAL TRADES COUNCIL  
VALLEJO, CA**

Beaumont's "Problem Solving Teams" project is, by no means, a totally new concept. Quality Circles are probably the best known of various "employee involvement" programs but, the process employed at Beaumont is, in my view, superior to the more conventional Quality Circle process in which circle members "brainstorm" for a problem to solve. In my experience, Quality Circle generated problems are more likely to reflect the "creative" interests of the Circle members than any actual problem. Savings obtained from such projects are frequently predicted over an extended period and are usually exaggerated.

The "needs assessment" process utilized at Beaumont increases the probability of genuine problem resolution with measurable payback over a shorter period. The three "problems" reported support this contention.

The Beaumont project appears to contain all the necessary ingredients for success. Those controlling, or facilitating, the project have recognized the need for union acceptance and support and, a quantum advancement, the legitimacy of the union's need to benefit from the project as well as management. The use of a Consultant, at least initially, should reduce any feelings of mistrust on the part of the union.

I cannot overemphasize the importance of the author's recommendations. Without the whole hearted support of top management, Employee Involvement has little chance of success. Perhaps, equally important, is the selection of union representatives capable of accepting change and working cooperatively with managers while providing necessary balance. I concur with the author's assessment that a sixteen member steering committee is excessively large.



The resistance by some managers to questions by hourly employees and the "atmosphere of tension .... possibly some hostility" at the Team's presentation appears to be universal and successful problem resolution may not alleviate the problem if insecure managers feel their control is threatened. Nonetheless, manager hostility must be overcome if long term success is to be realized.

Although the Beaumont project was short lived, each of the three Team problems was solved and, in each case, the solution was reasonably simple to implement, relatively inexpensive, produced a quick payback and is, with minor variations, transportable to other shipyards. More importantly, each of the problems, although simple in nature and solution, existed, for an extended period, either unrecognized or unsolved, prior

to involvement of the hourly employees. Employee Involvement has a rightful place in the work environment and can benefit both employees and managers.

Hopefully, circumstances at Beaumont will allow reimplementation of the Employee Involvement project in the near future. I would be particularly interested in their assessment of "multi-craft" work teams as, in the long term, I believe even greater benefit may be gained through use of multi-craft teams than through the reported Employee Involvement projects and Beaumont, with its' attention to detail and, more importantly, positive attitude, appears the ideal shipyard to test multi-crafting.

The author is to be commended on a thorough report sufficiently detailed to serve as a guide to other shipyards.

#### **PAPER NO. 4 SUBMITTED BY T. A. SOTIR, DIRECTOR OF HUMAN RESOURCES GENERAL DYNAMICS, ELECTRIC BOAT DIVISION**

I have reviewed the Beaumont Report entitled "Problem Solving Teams in Shipbuilding" submitted by the Beaumont Yard and offer the following discussion:

The authors of the report need to be complemented on a fine submission not only in format but also in the degree of completeness. Their efforts in capturing and presenting the data in its chronological order was a major assist in the reading of the paper.

The objectives of the paper as stated on page (ii) were "to develop and implement an effective method of establishing problem solving teams which can draw upon the knowledge and experience of all levels of shipyard employees." Additionally, since the project received funding from SP-5, it was necessary to document the approach and learning lessons for use by interested members of the shipbuilding industry. The paper appears to have achieved its objectives by providing learning lessons and defining those learning lessons and pointing out areas of concern which must be addressed.

Any review of the report needs to highlight the sequential steps utilized by the Beaumont Yard. An understanding of these steps, in my view, the major learning lesson to be derived from the report.

The Beaumont Yard appears to have used the outside consultants both properly and effectively. As demonstrated, in an organized labor environment, this approach may be essential. Unions have become somewhat accustomed to the use of a neutral third party as an aid in bringing both union and management to a common point. I share the view that this approach is the "shoe horn" needed to move into a participative program when resistance on both sides of the bargaining table is present.

The offsite meetings (both the separate and joint sessions), seemed to be a significant factor in the progress made during the early stages. Placement of the activity in a neutral atmosphere for both parties (freeing each from self-imposed limitations) should not be overlooked in moving all participants to an acceptance mode. The Beaumont re-

port supports this. However, the report points out that some mid-management level and above continued to display resistance. No further insight is gained from the report on how to effectively overcome this problem (nor is there a simple solution to the problem). The learning lesson suggested here is the need to maintain a vigilance against this situation even in seemingly positive situations.

Particular mention must be made of the communication program—a thorough, open and continuous approach. This provided the means by which top management displayed its support and participation. A hidden benefit in this communication process was the pressure it exerted on the total organization to provide timely decisions necessary for success.

In reading the report one cannot help but question the total time span to reach a state of fruition. Learning lessons need to be developed and insights given into reducing this span of time.

Page 17 in the report recommends that a committee of less than 16 members be used. From the material presented, I agree that anything larger presents both an unwieldy and untenable situation.

Unfortunately, the business environment for the Beaumont Yard did not allow for developing a continuing program. I agree with the recommendation (page 17 item 4) that "additional options must be available to sustain the effort over a long period of time". Such options will have to be developed in a shipyard with a more favorable business climate. Then again a similar process in a prosperous yard would probably be missing one of the key ingredients present in the Beaumont Yard, i.e., the ingredient of survival as a motivational tool.

In summary, the study supports the concept that employee involvement activities in a shipyard environment is feasible, however, leaves unanswered the question how long such an activity can be sustained. The report does provide a basis for developing an implementation plan even in a prosperous shipyard.

**PAPER NO. 5 SUBMITTED BY DAN STRAVINSKI, MANAGER LABOR RELATIONS  
NATIONAL STEEL AND SHIPBUILDING COMPANY  
SAN DIEGO, CA**

The management and unions of the Bethlehem-Beaumont Yard are to be commended for furthering our knowledge of employee involvement as it relates to problem solving teams in a shipbuilding environment. The method by which problems were selected for teams to work on at Beaumont seem to address a number of needs for employee involvement to be successful. These include: work input regarding work related problems, management influence in problem selection, union involvement in the overall process, and the need for employee involvement groups to be focused on highly visible problems which will provide real return to the company and its employees with their solution. This is especially important in the beginning stages of any employee involvement activity.

However, the use of study action teams implies a limited penetration of the organization by the employee involvement process. It is a case of a new system being imposed on an existing organization without the necessary organizational changes necessary to support it.

In Bethlehem's case, a limited number of people were trained in group process and problem solving skills. The training that was provided seemed to be appropriate for the task at hand, however it seemed to miss line supervision and production management, groups which are the linchpins of successful employee involvement. The study action teams were a parallel structure to the existing organization with all the difficulties that this implies. In Bethlehem's case this was dealt with to some extent by involving individuals affected by proposed solutions in the actual problem resolution process. This, how-

ever, does not address the basic organizational problem just noted.

The degree of involvement of Bethlehem's work force was further reduced by the use of task limited teams. Once a problem was resolved, the team ceased to exist. By using this process, team members were denied the continuity of involvement that would be so helpful to developing well functioning teams skilled in problem solving. Unless employees were cycled through teams on a fairly regular basis, their problem solving skills and ability to work as a member of a team would be difficult to maintain. This would be especially so if the employees were returning to a traditional organization.

Despite the apparent shortcomings of the study action team approach, it appears to be a good process to identify major problems within the organization and get them resolved. In so doing, a track record is established for employee involvement which may well pave the way for more ambitious attempts to utilize the knowledge and ambition of employees in the work place. These would include single and multi-craft self-managing work teams referred to in the beginning of Beaumont's report.

There is much to learn about employee involvement in a shipyard. Dealing with the highly mobile work force within the shipyard, and with the effects of a lack of job security are a challenge to us all. Efforts such as those undertaken by Bethlehem-Beaumont will help lead the way to a more competitive shipbuilding industry.

## EXHIBIT "C"

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NORTHWEST MARINE IRON WORKS  
EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Pony Express	Monthly	Janitorial Services at Marine Division	\$ 2,447/MO	
Pony Express	Monthly	Janitorial Services at Shop Division	\$ 560/MO	
Port of Portland	Monthly	Security		Informal Oral Agree- ment.
Port of Portland	Monthly	Building #54 - Bay 1, 3 & 4	\$ 158/MO	
Port of Portland	Monthly	Building #43A - Utilities Only	\$ 50/MO	
Port of Portland	5/81 to 5/01	Building #73, Bay 1.	\$ 3,800/YR + Property Taxes	
Port of Portland	Expires 6/1990	Ship Repair Yard Use Agreement.		
Port of Portland	Continuous	First Aid Station	Varies with Usage.	

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## EXHIBIT "C"

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## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Port of Portland	Month to Month	6000 Square feet of open storage space bordering Building #73.	Monthly	
Port of Portland	Expires 6/90	Land Use		
Port of Portland	Continuous (Signed 8/1/82)	Water & Sewage for Building #2.	Monthly	
Port of Portland	8/82 to 7/2000	Water main access to Building #2.	Monthly	
Port of Portland	8/82 to 7/2000	Access to Building #2.	-0-	
Port of Portland	8/82 to 7/2000	Access to Lagoon Avenue Parking Lot.	-0-	

NORTHWEST MARINE IRON WORKS  
EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Port of Portland	Signed 1/4/83	Vacation of Lagoon Avenue Property.	-0-	
Port of Portland		Ground Maintenance.	\$ 500/YR	
Modulaire Industries	10/86 to 3/87	Mobile Offices	\$ 5,501/MO	
Modulaire Industries	10/86 to 3/87	Mobile Restrooms	\$ 866/MO	
Modulaire Industries	10/86 to 3/87	Open Trailers	\$ 4,075/MO	
Modulaire Industries	10/86 to	Laundry Trailer	\$ 1,108/MO	

NORTHWEST MARINE IRON WORKS  
EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
NMIW	10/86 to 3/87	1) Sublease all Modulaire Industries leases. (Invoiced Monthly)  2) Navy Berthing Area.  3) Parking Lot.	\$49,843/MO	Lessee: Lockport Marine.
NMIW	10/86 to 3/87	Float Pump (Invoiced Monthly)	\$ 3,000/MO	Lessee: Lockport Marine.
NMIW	10/86 to 3/87	Building 305 - Valve Repair Facilities. (Invoiced Monthly)	\$ 3,300/MO	Lessee: Lockport
Honeywell -Acct. No. 07643		Fire 2516 N. W. 29th Building Nos.: 1, 3, 4, 11, 13 & 14.	\$ 156/MO	

## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Honeywell -Acct. No. 07646		Burglary 2516 N. W. 29th Building Nos.: 1, 6, 7, 8 & 9	\$ 336/MO	
Honeywell -Acct. No. 07651		Fire & Evacuation 2516 N. W. 29th Building Nos.: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & Training Center.	\$ 149/MO	
Honeywell -Acct. No. 07840		Burglary 2523 N. W. 29th Building No. 11	\$ 129/MO	
Honeywell -Acct. No. 08066		Fire & Evacuation 5555 N. Channel	\$ 374/MO	
Honeywell -Acct. No. 08210		Burglary 2429 N.W. 29th Building No. 14	\$ 84/MO	

## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Honeywell -Acct. No. 08211		Burglary 2451 N. W. 29th Building No. 13 - Pattern Shop.	\$ 98/MO	
Honeywell -Acct. No. 08212		Burglary 2455 N.W. 29th Building No. 12 - Training Center.	\$ 85/MO	
Honeywell -Acct. No. 08231		Burglary 2455 N.W. 29th Building No. 12 - Warehouse.	\$ 75/MO	
Bradavin Property Trust	12/82 to 12/2017	Real Property	\$19,000/MO	
Nick Chester Realty		Listing for sale of 15 Acres bordering Canron Construction Company (formerly Atlas Iron Works).		



## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Grubb & Ellis Commercial Brokerage Service		Listing for properties located at N.W. 29th Street - Portland, OR.		
Nam Chang	Monthly	Sweep Parking Areas. Located at 5555 N. Channel Ave.		Oral Agreement.
Harris 3M	6/3/85 to 6/2/88	Copier (Shop Division)	\$ 90/MO	
AT&T Information System	4/85 to 3/89	Phone system (Shop Division)	\$ 175/MO	
Simplex Time Recorder Co.	10/86 to 9/87	Time Clock Maintenance.	\$ 93/YR	
Brunning	Expires 9/87	Blueprinting machine maintenance.	\$ 708/YR	

## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Portland Typewriter	5/86 to 5/5/87	Maintenance for 14 typewriters.	\$ 1,060/YR	
Xerox	Expires 11/86	Telecopier.	\$ 313/MO	Lease/purchase.
EKCC	4/19/86 to 3/19/89	"KEEPS" wordprocessor.	\$ 1,851/MO	Lease/purchase.
Eastman Kodak	4/86 to 3/89	Maintenance on "KEEPS".	\$ 905/MO	
Eastman Kodak	9/86 to 8/89	(3) Copiers.	\$ 4,225/MO	
Pitney Bowes		Postage Machine.	\$ 223/MO	
Pitney Bowes		Maintenance on postage machine.	\$ 151/YR	

NORTHWEST MARINE IRON WORKS  
EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Prime Computer Inc.	4/86 to 3/87	Maintenance on various computer hardware.	\$ 3,911/MO	
Dynamic Systems Northwest	4/86 to 3/87	Code one printer.	\$ 1,100/YR	
Cascade Computer Maintenance	Month to Month	Computer terminals.	\$ 515/MO	
Anacomp	12/84 to 12/86	Maintenance Agreement for Computer output microfilm.		
GMAC	1/86 to 12/88	GMC Suburban	\$ 286/MO	
Motorola Communi- cations & Electronics		Maintenance on various radio equipment.	\$ 537/MO	
Coverall Uniform Supply	5/85 to 7/88	Various coveralls.	Varies with usage.	

## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Halton Tractor Company	10/86	Forklift truck.	\$ 850/MO	
Petzav Leasing	Varies	Boring Mill (SKODA), Horizontal Boring Mill, Prime Computer Upgrade and Honeywell DPS-8 Equipment.	\$45,618/MO	
Pacific Coast Metal Trades District Council	Expires 1/8/87	Collective labor bargaining agreement.	N/A	
William H. Zavín	1/81 to 12/2007	Employment Contract.		
First Interstate Bank of Oregon	Continuous	Profit sharing plan.	Variable	
Kaiser Foundation Health Plan with Prescription Coverage	Annual Renewal 1/1	Medical	Monthly	Policy Number #1601-001 #1601-002

## NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
The Bankers Life	Annual 1/1	Medical/\$5000 Life Insurance.	Monthly	Policy Number 18068
Oregon Dental Service	Administra- tive Services Only - 30 Days notice to terminate.	Dental	Monthly	Policy Number 3089
Standard Insurance Company	Annual 6/1 Annual 6/1	Long Term Disability  Life-Effective & Retirees Dep.	Monthly	Policy Number 308521  Policy Number 308521-C
American Home Assurance Company	Until Terminates	Accidental Death and Disability.	Monthly	Policy Number EAP-900-7455

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CLASSIFICATION OF CONTRACTS

- o BUILDINGS AND MAINTENANCE
- o OFFICE EQUIPMENT
- o PRODUCTION EQUIPMENT & VEHICLES
- o SALES CONTRACTS
- o INSURANCE & EMPLOYMENT CONTRACTS
- o PENDING LITIGATIONS

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CLASSIFICATION OF CONTRACTS

- o BUILDINGS AND MAINTENANCE
  - o OFFICE EQUIPMENT
- o PRODUCTION EQUIPMENT & VEHICLES
  - o SALES CONTRACTS
- o INSURANCE & EMPLOYMENT CONTRACTS
  - o PENDING LITIGATIONS

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Pony Express	Monthly	Janitorial Services at Marine Division	\$ 2,447/MO	
Pony Express	Monthly	Janitorial Services at Shop Division	\$ 560/MO	
Port of Portland	Monthly	Security		Informal Oral Agree- ment.
Port of Portland	1/82 to 10/86	Building #72 - Bay 4	\$ 2,520/MO	
Port of Portland	Monthly	Building #54 - Bay 1, 3 & 4	\$ 158/MO	
Port of Portland	Monthly	Building #43A - Utilities Only	\$ 50/MO	
Port of Portland	5/81 to 5/01	Yard Usage and Property Taxes	\$ 3,800/YR	



# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Port of Portland	Continuous	First Aid Station	?	
Modulaire Industries	10/86 to 3/87	Mobile Offices	\$ 5,501/MO	
Modulaire Industries	10/86 to 3/87	Mobile Restrooms	\$ 866/MO	
Modulaire Industries	10/86 to 3/87	Open Trailers	\$ 4,075/MO	
Modulaire Industries	10/86 to	Laundry Trailer	\$ 1,109/MO	
Port of Portland	Month to Month	6000 Square feet open storage space bordering Building #73.	Monthly	
Port of Portland	Expires 6/90	Land Use	?	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Port of Portland	Continuous (Signed 8/1/82)	Water & Sewage for Building #2.	Montlly	
Port of Portland	8/82 to 7/2000	Water main acces to Building #2.	Monthly	
Port of Portland	8/82 to 7/2000	Access to Building #2.	-0-	
Port of Portland	8/82 to 7/2000	Access to Lagoon Avenue Parking Lot.	-0-	
Port of Portland	Signed 1/4/83	Vacation of Lagoon Avenue Property.	-0-	
Port of Portland		Ground Maintenance.	\$ 500NYR	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
NMIW	10/86 to 3/87	1) Sublease all Modulaire Industries leases. (Invoiced Monthly)  2) Navy Berthing Area.  3) Parking Lot.	\$49,843/MO	Lessee/Lockport Marine.
NMIW	10/86 to 3/87	Floor Pump (Invoiced Monthly)	\$ 3,000/MO	Lessee/Lockport Marine.
NMIW	10/86 to 3/87	Building 305 - Valve Repair Facilities. (Invoiced Monthly)	\$ 3,300/MO	X Lessee/Lockport
Honeywell -Acct. No. 07643		Fire 2516 N. W. 29th Building Nos.: 1, 3, 4, 11, 13 & 14.	\$ /MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Honeywell -Acct. No. 07646		Burglary 2516 N. W. 29th Building Nos.: 1, 6, 7, 8 & 9	\$ 336/MO	
Honeywell -Acct. No. 07651		Fire & Evacuation 2516 N. W. 29th Building Nos.: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & Training Center.	\$ 149/MO	
Honeywell -Acct. No. 07840		Burglary 2523 N. W. 29th Building No. 11	\$ 129/MO	
Honeywell -Acct. No. 08066		Fire & Evacuation 5555 N. Channel	\$ 374/MO	
Honeywell -Acct. No. 08210		Burglary 2429 N.W. 29th Building No. 14	\$ 84/MO	

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Honeywell -Acct. No. 08211		Burglary 2451 N. W. 29th Building No. 13 - Pattern Shop.	\$ 98/MO	
Honeywell -Acct. No. 08212		Burglary 2455 N.W. 29th Building No. 12 - Training Center.	\$ 85/MO	
Honeywell -Acct. No. 08231		Burglary 2455 N.W. 29th Building No. 12 - Warehouse.	\$ 75/MO	
Bradavin Property Trust	12/82 to 12/2017	Real Property	\$19,00/MO	

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Nick Chester Realty		Sale of 15 Acres bordering CANRON (Atlas Iron Works).		
Grubb & Ellis Commercial Brokerage Service		Properties located at N.W. 29th Street - Portland, OR.		
Nam Chang	Monthly	Sweep Parking Areas.		Oral Agreement.

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Harris 3M	6/3/85 to 6/2/88	Copier (Shop Division)	\$ 90/MO	Lessor sending contract.
AT&T Information System	4/85 to 3/89	Phone system (Shop Division)	\$ 175/MO	
Simplex Time Recorder Co.	10/86 to 9/87	Time Clock Maintenance.	\$ 93/YR	
Brunning	Expires 9/87	Blueprinting machine maintenance.	\$ 708/YR	
Portland Typewriter	5/86 to 5/5/87	Maintenance for 14 typewriters.	\$ 1,060/YR	
Xerox	Expires 11/86	Telecopier.	\$ 313/MO	Lease/purchase.

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
EKCC	4/19/86 to 3/19/89	"KEEPS" wordprocessor.	\$ 1,851/MO	Lease/purchase.
Eastman Kodak	4/86 to 3/89	Maintenance on "KEEPS".	\$ 905/MO	
Eastman Kodak	9/86 to 8/89	(3) Copiers.	\$ 4,225/MO	
Pitney Bowes		Postage Machine.	\$ 223/MO	
Pitney Bowes		Maintenance on postage machine.	\$ 151/YR	
Prime Computer Inc.	4/86 to 3/87	Maintenance on various computer hardware.	\$ 3,911/MO	



**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Dynamic Systems Northwest	4/86 to 3/87	Code/printer.	\$ 1,100/YR	
Cascade Computer Maintenance	Month to Month	Computer terminals.	\$ 515/MO	
Sistonetics		Software Maintenance.	\$ 1,100/MO	
American Business Machines	10/85 to 10/86	Ricoh FT4065 Copier.	\$ 268/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PRODUCTION EQUIPMENT & VEHICLES

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Leasing Associates	Ends 11/3/86	Chevy El Camino	\$ 123/MO	Atlas Iron Works.
		Chevy Truck	\$ 129/MO	
		Chevy Truck	\$ 139/MO	
GMAC	1/86 to 12/88	GMC Suburban	\$ 286/MO	
Motorola Communi- cations & Electronics		Maintenance on various radio equipment.	\$ 537/MO	
Coverall Uniform Supply	5/85 to 7/88	Various coveralls.	Variable	
Halton Tractor Company	10/86	Forklift truck.	\$ 850/MO	

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: PRODUCTION EQUIPMENT & VEHICLES

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Petzav Leasing		Boring Mill (SKODA)	\$16,000/MO	
Petzav Leasing	10/83 to 9/91	Horizontal Boring Mill.	\$14,407/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
ESCO Corporation		Machine (156) Turbine Blades.	Bob Hall to provide.	
Automar IV Corp.		CAPE EDMONT (Paralla)	Negotiating	
Marine Transport Line		B.T. San Diego		Work completed.
Holland America Cruise Lines		"NIEUW AMSTERDAM"		Work completed. No written contract.
Maritime Overseas Corporation		"OVERSEAS JUNEAU"		
Supervisor of Shipbuilding Conversion & Repair (US NAVY)		"USCGC STORIS"		Work completed. Contract Number N00024-85-H-9197.

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Supervisor of Shipbuilding Conversion & Repair (US NAVY)		USS HENRY B. WILSON		Work completed. Contract Number N00024-82-R-8503
Dept. of the Navy - Naval Sea Systems Command		USS CUSHING		Work completed. Contract Number N00024-85-C-8523
Dept. of the Navy - Naval Sea Systems Command		USS DULUTH		Work completed. Contract Number N00024-85-C-8506
Naval Sea System Command		Master Agreement for Repair & Alteration of Vessels.		Contract Number N00024-85-H-8197.
Dept. of the Navy Military Sealift Command		Master Agreement for Repair & Alteration of Vessels.		Contract Number N00033-85-H-0307

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Chevron Shipping Company	Continuous	Periodic overhaul work.	Per Ship	
Chevron Shipping Company	Continuous	Standing Service Contract.	Per Ship	
International Fabrication & Supply Corp.		Reformal agreement.	Percentage of cash receipts.	
Matson Navigation Company	Continuous	Master work agreement.	Per Ship	
Mitsui Engineering & Shipbuilding Co.	9/84 to 8/99	Confidentiality agreement.		RE: SS ARCO CALIFORNIA
Mitsui Engineering & Shipbuilding Co.	3/84 to 2/99	Confidentiality agreement.		RE: SS BROOKS RANGER

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Mitsui Engineering & Shipbuilding Co.	3/84 to 2/99	Confidentiality agreement.		RE: SS THOMPSON PASS
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS ANTIGUIN PASS
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS KENAI
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS KEYSTONE CANYON
EXXON	Continuous	Master work agreement.	Per ship	
Samuel Montagu & Company, LTD.	Signed 7/4/86	Letter of undertaking.		RE: CAPE EDMONT

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
US of America Defense Investi- gative Service	Signed 8/13/84	Security Agreement		
G.C. Ridley & Company		Company representative.		
A. Silchenstedt		Company representative.		
World Ocean Engineering Co.		Company representative.		
Sanko Steamship Co.		Company representative.		
Paul Gregersen & Co.		Company representative.		
Krogstads Shipping		Company representative.		



**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Comprehensive General Liability		SEE SEPARATE SHEET.		
Comprehensive Automobile Liability		SEE SEPARATE SHEET.		
Foreign Liability		SEE SEPARATE SHEET.		
Marine Chemists Professional Liability		SEE SEPARATE SHEET.		
Primary Ship Repairer's Legal Liability		SEE SEPARATE SHEET.		
First Excess Ship Repairer's Legal Liability		SEE SEPARATE SHEET.		
Second Excess Ship Repairer's Legal Liability		SEE SEPARATE SHEET.		
Fiduciary Liability		SEE SEPARATE SHEET.		

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
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Workers Compensation - State of Oregon		SEE SEPARATE SHEET.		
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Marine Hull Coverage on APB "Colleton"		SEE SEPARATE SHEET.		
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Ship Repairer's Water Quality Insurance		SEE SEPARATE SHEET.		
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Blanket Property Program		SEE SEPARATE SHEET.		
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Valuable Papers & Records		SEE SEPARATE SHEET.		
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Crime Coverage		SEE SEPARATE SHEET.		
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Boiler & Machinery		SEE SEPARATE SHEET.		
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Schedule of Surety Bonds		SEE SEPARATE SHEET.		
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# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Pacific Coast Metal Trades District Council	Expires 1/8/87	Collective labor bargaining agreement.	N/A	
William H. Zavin	1/81 to 12/2007	Employment Contract.		
First Interstate	Continuous	Profit sharing plan.	Variable	
Kaiser Foundation Health Plan with Prescription Coverage	Annual Renewal 1/1	Medical	Monthly	Policy Number #1601-001 #1601-002
The Bankers Life	Annual 1/1	Medical/\$5000 Life Insurance.	Monthly	Policy Number 18068
Oregon Dental Service	Administra- tive Services Only - 30 Days to terminate.	Dental	Monthly	Policy Number 3089

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Standard Insurance Company	Annual 6/1	Long Term Disability	Monthly	Policy Number 308521
	Annual 6/1	Life-Effective & Retirees Dep.		Policy Number 308521-C
American Home Assurance Company	Until Terminates	AD&D	Monthly	Policy Number EAP-900-7455

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
Continental Maritime				On appeal, Case No. C85-5200 Northern District of California.
Employers Mutual Casualty		Recover Insurance Claim.		Case No. A8607-04552 Multnomah Court Circuit Court.
General Steel Inc.				Case No. A8608-05118 Multnomah County Circuit Court.
Marine Carpenters Pension Fund				Case No. C86-7945T West District of Washington at Tacoma.
Tonkon, Torp, etc.	Signed 9/24/86	Contingency agreement.		

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

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**WORKERS COMPENSATIONS CLAIMS:**

<b>Last Name</b>	<b>First Name</b>	<b>Injury</b>
Ballard	Gary	Fume exposure S.49
Bellack	Elmer	Asbestos-related death.
Burkett, Jr.	Guycell	
Burkhardt	Bobby T.	Low Back
Christenson	Steven W.	Epoxy
Clark	George A.	Solvent encephalopathy
Cochran	Michael	Low Back, psych.
Craig	Martha R.	Cervical
Dowler	Harold	Low Back
Endicott	John	Fume exposure
Engstrom	Samuel	Low back
Fullman	Steven C.	Head injury
Garza	Jose	Hearing loss
George	Dennis D.	Low back
Hergenrader	Roger	Stress
McClure	Lynn R.	Cervical
Mullen	Mike E.	Hrg. loss (L)/Tinnitus

**NORTHWEST MARINE IRON WORKS****EXECUTORY CONTRACTS****10/29/86**CONTRACT CLASSIFICATION: PENDING LITIGATIONS

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**WORKERS COMPENSATIONS CLAIMS:**

<b>Last Name</b>	<b>First Name</b>	<b>Injury</b>
Noakes	Russel J.	Low back
Persons	Buddy	Burn - R. CIS
Peterson	Richard	Asbestosis/S.4 coverage
Prince	Blickie	Hernia
Skelton	Jas. Gary	Cervical
Thompson	Marva J.	R. shldr./low back
Cruise	Valley	Back injury
Stevenson	Robert	Low & mid back, shoulders, hands & cervical
Schwartz	William	Low back strain
Huserk	Grant	Knee & low back
Wilson	Oscar	Mid-section injury & psychiatric
Crapser	Richard	Hearing loss & back injury
Jakameno	Edith	Neck & shoulders
Shepherd	Joan	Knee & back injuries
Smith	William	Hearing loss & back injury
Flitcraft	Ed	Industrial bronchitis
Burkett	Guzzil	Cervical
Johnson	John	Back injury
Gooding	Al	Industrial bronchitis
Glasin	Craig	Eye & back injury
Correll	Donald	Ankel injury
Head	Burton	Epoxy exposure
Harris	Herbert	Hand & low back injury
Siler	James	Cervical
White	Sharon	Back & leg
Bowser	Al	Arm injury

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT	OTHER
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Chevron USA, Inc.

Priestley Oil &  
Chemical Co.



SCHEDULE

QUESTION 17

BUSINESS LEASES

**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CLASSIFICATION OF CONTRACTS

- o BUILDINGS AND MAINTENANCE
- o OFFICE EQUIPMENT
- o PRODUCTION EQUIPMENT & VEHICLES
- o SALES CONTRACTS
- o INSURANCE & EMPLOYMENT CONTRACTS
- o PENDING LITIGATIONS

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Pony Express	Monthly	Janitorial Services at Marine Division	\$ 2,447/MO	
Pony Express	Monthly	Janitorial Services at Shop Division	\$ 560/MO	
Port of Portland	Monthly	Security		Informal Oral Agree- ment.
Port of Portland	1/82 to 10/86	Building #72 - Bay 4	\$ 2,520/MO	
Port of Portland	Monthly	Building #54 - Bay 1, 3 & 4	\$ 158/MO	
Port of Portland	Monthly	Building #43A - Utilities Only	\$ 50/MO	
Port of Portland	5/81 to 5/01	Building #73, Bay 1.	\$ 3,800/YR + Property Taxes	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Port of Portland	Continuous	First Aid Station		
Port of Portland	Month to Month	6000 Square feet of open storage space bordering Building #73.	Monthly	
Port of Portland	Expires 6/90	Land Use		
Port of Portland	Continuous (Signed 8/1/82)	Water & Sewage for Building #2.	Monthly	
Port of Portland	8/82 to 7/2000	Water main access to Building #2.	Monthly	
Port of Portland	8/82 to 7/2000	Access to Building #2.	-0-	
Port of Portland	8/82 to 7/2000	Access to Lagoon Avenue Parking Lot.	-0-	

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Port of Portland	Signed 1/4/83	Vacation of Lagoon Avenue Property.	-0-	
Port of Portland		Ground Maintenance.	\$ 500/YR	
Modulaire Industries	10/86 to 3/87	Mobile Offices	\$ 5,501/MO	
Modulaire Industries	10/86 to 3/87	Mobile Restrooms	\$ 866/MO	
Modulaire Industries	10/86 to 3/87	Open Trailers	\$ 4,075/MO	
Modulaire Industries	10/86 to	Laundry Trailer	\$ 1,108/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
NMIW	10/86 to 3/87	1) Sublease all Modulaire Industries leases. (Invoiced Monthly)  2) Navy Berthing Area.  3) Parking Lot.	\$49,843/MO	Lessee: Lockport Marine.
NMIW	10/86 to 3/87	Float Pump (Invoiced Monthly)	\$ 3,000/MO	Lessee: Lockport Marine.
NMIW	10/86 to 3/87	Building 305 - Valve Repair Facilities. (Invoiced Monthly)	\$ 3,300/MO	Lessee: Lockport
Honeywell -Acct. No. 07643		Fire 2516 N. W. 29th Building Nos.: 1, 3, 4, 11, 13 & 14.	\$ 156/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Honeywell -Acct. No. 07646		Burglary 2516 N. W. 29th Building Nos.: 1, 6, 7, 8 & 9	\$ 336/MO	
Honeywell -Acct. No. 07651		Fire & Evacuation 2516 N. W. 29th Building Nos.: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & Training Center.	\$ 149/MO	
Honeywell -Acct. No. 07840		Burglary 2523 N. W. 29th Building No. 11	\$ 129/MO	
Honeywell -Acct. No. 08066		Fire & Evacuation 5555 N. Channel	\$ 374/MO	
Honeywell -Acct. No. 08210		Burglary 2429 N.W. 29th Building No. 14	\$ 84/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Honeywell -Acct. No. 08211		Burglary 2451 N. W. 29th Building No. 13 - Pattern Shop.	\$ 98/MO	
Honeywell -Acct. No. 08212		Burglary 2455 N.W. 29th Building No. 12 - Training Center.	\$ 85/MO	
Honeywell -Acct. No. 08231		Burglary 2455 N.W. 29th Building No. 12 - Warehouse.	\$ 75/MO	
Bradavin Property Trust	12/82 to 12/2017	Real Property	\$19,000/MO	

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: BUILDINGS & MAINTENANCE

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Nick Chester Realty		Sale of 15 Acres bordering Canron Construction Company (formerly Atlas Iron Works)		
Grubb & Ellis Commercial Brokerage Service		Properties located at N.W. 29th Street - Portland, OR.		
Nam Chang	Monthly	Sweep Parking Areas. Located at 5555 N. Channel Ave.		Oral Agreement.



NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Harris 3M	6/3/85 to 6/2/88	Copier (Shop Division)	\$ 90/MO	Lessor sending contract.
AT&T Information System	4/85 to 3/89	Phone system (Shop Division)	\$ 175/MO	
Simplex Time Recorder Co.	10/86 to 9/87	Time Clock Maintenance.	\$ 93/YR	
Brunning	Expires 9/87	Blueprinting machine maintenance.	\$ 708/YR	
Portland Typewriter	5/86 to 5/5/87	Maintenance for 14 typewriters.	\$ 1,060/YR	
Xerox	Expires 11/86	Telecopier.	\$ 313/MO	Lease/purchase.

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
EKCC	4/19/86 to 3/19/89	"KEEPS" wordprocessor.	\$ 1,851/MO	Lease/purchase.
Eastman Kodak	4/86 to 3/89	Maintenance on "KEEPS".	\$ 905/MO	
Eastman Kodak	9/86 to 8/89	(3) Copiers.	\$ 4,225/MO	
Pitney Bowes		Postage Machine.	\$ 223/MO	
Pitney Bowes		Maintenance on postage machine.	\$ 151/YR	
Prime Computer Inc.	4/86 to 3/87	Maintenance on various computer hardware.	\$ 3,911/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: OFFICE EQUIPMENT

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Dynamic Systems Northwest	4/86 to 3/87	Code one printer.	\$ 1,100/YR	
Cascade Computer Maintenance	Month to Month	Computer terminals.	\$ 515/MO	
American Business Machines	10/85 to 10/86	Ricoh FT4065 Copier.	\$ 268/MO	
Petzav Leasing	5/82 to 5/87	Honeywell DPS-8 Equipment.	\$13,543/MO	
Anacom	12/84 to 12/86	Maintenance Agreement for Computer output microfilm.		

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PRODUCTION EQUIPMENT & VEHICLES

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Leasing Associates	Ends 11/3/86	Chevy El Camino	\$ 123/MO	Atlas Iron Works.
		Chevy Truck	\$ 129/MO	
		Chevy Truck	\$ 139/MO	
GMAC	1/86 to 12/88	GMC Suburban	\$ 286/MO	
Motorola Communi- cations & Electronics		Maintenance on various radio equipment.	\$ 537/MO	
Coverall Uniform Supply	5/85 to 7/88	Various coveralls.	Variable	
Halton Tractor Company	10/86	Forklift truck.	\$ 850/MO	

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PRODUCTION EQUIPMENT & VEHICLES

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Petzav Leasing		Boring Mill (SKODA)	\$16,000/MO	
Petzav Leasing	10/83 to 9/91	Horizontal Boring Mill.	\$14,407/MO	
Petzav Leasing	1/84 to 12/88	Computer Upgrade (to 750)	\$ 1,668/MO	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES/PURCHASE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
ESCO Corporation		Machine (156) Turbine Blades.		
Automar IV Corp.		CAPE EDMONT (Paralla)	Negotiating	
Marine Transport Line		B.T. San Diego		Work completed.
Holland America Cruise Lines		"NIEUW AMSTERDAM"		Work completed. No written contract.
Maritime Overseas Corporation		"OVERSEAS JUNEAU"		
Supervisor of Shipbuilding Conversion & Repair (US NAVY)		USCGC STORIS		Work completed. Contract Number N00024-85-H-9197.

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES/PURCHASE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Supervisor of Shipbuilding Conversion & Repair (US NAVY)		USS HENRY B. WILSON		Work completed. Contract Number N00024-82-R-8503
Dept. of the Navy - Naval Sea Systems Command		USS CUSHING		Work completed. Contract Number N00024-85-C-8523
Dept. of the Navy - Naval Sea Systems Command		USS DULUTH		Work completed. Contract Number N00024-85-C-8506
Naval Sea System Command		Master Agreement for Repair & Alteration of Vessels.		Contract Number N00024-85-H-8197.
Dept. of the Navy Military Sealift Command		Master Agreement for Repair & Alteration of Vessels.		Contract Number N00033-85-H-0307

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES/PURCHASE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Chevron Shipping Company	Continuous	Periodic overhaul work.	Per Ship	
Chevron Shipping Company	Continuous	Standing Service Contract.	Per Ship	
International Fabrication & Supply Corp.		Reformal agreement.	Percentage of cash receipts.	
Matson Navigation Company	Continuous	Master work agreement.	Per Ship	
Mitsui Engineering & Shipbuilding Co.	9/84 to 8/99	Confidentiality agreement.		RE: SS ARCO CALIFORNIA
Mitsui Engineering & Shipbuilding Co.	3/84 to 2/99	Confidentiality agreement.		RE: SS BROOKS RANGER



# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES/PURCHASE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Mitsui Engineering & Shipbuilding Co.	3/84 to 2/99	Confidentiality agreement.		RE: SS THOMPSON PASS
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS ANTIGUIN PASS
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS KENAI
Mitsui Engineering & Shipbuilding Co.	1/84 to 12/98	Confidentiality agreement.		RE: SS KEYSTONE CANYON
EXXON	Continuous	Master work agreement.	Per ship	
Samuel Montagu & Company, LTD.	Signed 7/4/86	Letter of undertaking.		RE: CAPE EDMONT

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: SALES/PURCHASE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
US of America Defense Investi- gative Service	Signed 8/13/84	Security Agreement		
G.C. Ridley & Company		Company representative.		
A. Silchenstedt		Company representative.		
World Ocean Engineering Co.		Company representative.		
Sanko Steamship Co.		Company representative.		
Paul Gregersen & Co.		Company representative.		
Krogstads Shipping		Company representative.		
Eoff Electric Company		Purchase electric equipment.	\$13,155	

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Comprehensive General Liability		See Schedule		
Comprehensive Automobile Liability		See Schedule		
Foreign Liability		See Schedule		
Marine Chemists Professional Liability		See Schedule		
Primary Ship Repairer's Legal Liability		See Schedule		
First Excess Ship Repairer's Legal Liability		See Schedule		
Second Excess Ship Repairer's Legal Liability		See Schedule		
Fiduciary Liability		See Schedule		

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Workers Compensation - State of Oregon		See Schedule		
Marine Hull Coverage on APB "Colleton"		See Schedule		
Ship Repairer's Water Quality Insurance		See Schedule		
Blanket Property Program		See Schedule		
Valuable Papers & Records		See Schedule		
Crime Coverage		See Schedule		
Boiler & Machinery		See Schedule		
Schedule of Surety Bonds		See Schedule		

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Pacific Coast Metal Trades District Council	Expires 1/8/87	Collective labor bargaining agreement.	N/A	
William H. Zavin	1/81 to 12/2007	Employment Contract.		
First Interstate Bank of Oregon	Continuous	Profit sharing plan.	Variable	
Kaiser Foundation Health Plan with Prescription Coverage	Annual Renewal 1/1	Medical	Monthly	Policy Number #1601-001 #1601-002
The Bankers Life	Annual 1/1	Medical/\$5000 Life Insurance.	Monthly	Policy Number 18068
Oregon Dental Service	Administra- tive Services Only - 30 Days notice to terminate.	Dental	Monthly	Policy Number 3089

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: INSURANCE & EMPLOYEE CONTRACTS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Standard Insurance Company	Annual 6/1 Annual 6/1	Long Term Disability Life-Effective & Retirees Dep.	Monthly	Policy Number 308521 Policy Number 308521-C
American Home Assurance Company	Until Terminates	Accidental Death and Disability.	Monthly	Policy Number EAP-900-7455
Industrial Indemnity Company	Until work is complete.	Performance bond for ESCO Purchase Order No. P-59151.		

# NORTHWEST MARINE IRON WORKS

## EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Continental Maritime				On appeal, Case No. C85-5200 Northern District of California.
Employers Mutual Casualty		Recover Insurance Claim.		Case No. A8607-04552 Multnomah Court Circuit Court.
General Steel Inc.				Case No. A8608-05118 Multnomah County Circuit Court.
Marine Carpenters Pension Fund				Case No. C86-7945T West District of Washington at Tacoma.
Tonkon, Torp, etc.	Signed 9/24/86	Contingency agreement.		
Port of Portland				

NORTHWEST MARINE IRON WORKS

EXECUTORY CONTRACTS

10/29/86

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Chevron USA, Inc.				
Priestley Oil & Chemical Co.				



**NORTHWEST MARINE IRON WORKS**

**EXECUTORY CONTRACTS**

**10/29/86**

CONTRACT CLASSIFICATION: PENDING LITIGATIONS

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**WORKERS COMPENSATIONS CLAIMS:**

<b>Last Name</b>	<b>First Name</b>	<b>Injury</b>
Ballard	Gary	Fume exposure S.49
Bellack	Elmer	Asbestos-related death.
Burkett, Jr.	Guycell	
Burkhardt	Bobby T.	Low Back
Christenson	Steven W.	Epoxy
Clark	George A.	Solvent encephalopathy
Cochran	Michael	Low Back, psych.
Craig	Martha R.	Cervical
Dowler	Harold	Low Back
Endicott	John	Fume exposure
Engstrom	Samuel	Low back
Fullman	Steven C.	Head injury
Garza	Jose	Hearing loss
George	Dennis D.	Low back
Hergenrader	Roger	Stress
McClure	Lynn R.	Cervical
Mullen	Mike E.	Hrg. loss (L)/Tinnitus

**NORTHWEST MARINE IRON WORKS****EXECUTORY CONTRACTS****10/29/86**CONTRACT CLASSIFICATION: PENDING LITIGATIONS**WORKERS COMPENSATIONS CLAIMS:**

<b>Last Name</b>	<b>First Name</b>	<b>Injury</b>
Noakes	Russel J.	Low back
Persons	Buddy	Burn - R. CIS
Peterson	Richard	Asbestosis/S.4 coverage
Prince	Blickie	Hernia
Skelton	Jas. Gary	Cervical
Thompson	Marva J.	R. shldr./low back
Cruise	Valley	Back injury
Stevenson	Robert	Low & mid back, shoulders, hands & cervical
Schwartz	William	Low back strain
Huserk	Grant	Knee & low back
Wilson	Oscar	Mid-section injury & psychiatric
Crapser	Richard	Hearing loss & back injury
Jakameno	Edith	Neck & shoulders
Shepherd	Joan	Knee & back injuries
Smith	William	Hearing loss & back injury
Flitcraft	Ed	Industrial bronchitis
Burkett	Guzzil	Cervical
Johnson	John	Back injury
Gooding	Al	Industrial bronchitis
Glasin	Craig	Eye & back injury
Correll	Donald	Ankel injury
Head	Burton	Epoxy exposure
Harris	Herbert	Hand & low back injury
Siler	James	Cervical
White	Sharon	Back & leg
Bowser	Al	Arm injury

NMIW

EXECUTORY CONTRACTS

10-29-86

Classification of Contracts

- Buildings & Maintenance
- Office Equipment
- Production Equipment & Vehicles
- Sales Contracts
- Insurance & Employment Contracts
- Pending Litigations

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Buildings & Maintenance

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT <del>TERMS</del>	OTHER
• Pony Express	monthly	janitorial services at Maine Division	\$2447/MO	
• Pony Express	monthly	janitorial services at Shop Division	\$560/MO	
• Port of Portland	monthly	Security		informal oral agreement
✓	1-82 TO 10-86	building #72 bay #4	\$2520/MO	
✓	monthly	building 54 bay 1, 3, 4	\$159/MO	
✓	monthly	building 434 utilities only	\$50/MO	
✓	5-81 TO 5-01	yard	\$3200/YR + property taxes	

NMIW  
EXECUTORY CONTRACTS  
10-29-86

CONTRACT CLASSIFICATION Building & Maintenance

<u>LESSOR/PARTY</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS <del>FEES</del></u>	<u>OTHER</u>
• Port of Portland	continuous	first aid station	?	
• Modulare Industries	10-9-86 TO 3-97	mobile offices	\$5501/MD	
• ✓	✓	mobile restrooms	\$160/MD	
• ✓	✓	open trailers	\$4075/MD	
• ✓	✓	semi-trailers	<u>\$4009/MD</u>	20

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Building & Maintenance

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
• Port of Portland	month-to- month	6000 square feet open storage space bordering building 73.	monthly	
• Same	4 piers 6-90	Land use	?	
• Same	continuous (signed 8-1-82)	Water & sewage for building no. 2.	monthly	
• Same	8-82 TO 7-2000	Water main access to building no. 2.	monthly	
• Same	Same	Access to building no. 2	-0-	
• Same	Same	Access to Lagoon Avenue parking lot	-0-	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Building & Maintenance

<u>LESSOR</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u>	<u>OTHER</u>
• Port of Portland	signed 1-4-83	Vacation of Lagoon Avenue property	- 0 -	
• Same		Ground maintenance	\$500/YR	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Building & Maintenance

<u>LESSOR</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u> <del>FEES</del>	<u>OTHER</u>
NMIW	10-86 TO 3-87 (invoiced monthly)	1. sublease all Modulaire Industries leases.  2. Navy berthing area.  3. Parking lot.	\$ 49,843/MO	Lease: Lockport Marine
NMIW	10-86 TO 3-87 (invoiced monthly)	Elbow Pump.	\$3000/MO	Lease: Lockport Marine
NMIW	10-86 TO 3-87 (invoiced monthly)	Building 305 Valve Repair Facility.	\$3300/MO	Lease: Lockport Marine



NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Buildings & Maintenance

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
• Honeywell - acct no. 07643		Fire. 2516 NW 29th Building nos: 1, 3, 4, 11, 13 & 14	\$ / Mo	
- acct no. 0746		Burglary. 2516 NW 29th Building nos: 1, 6, 7, 8 & 9	\$ 336 / Mo	
- acct no. 07651		Fire & vaccination. 2516 NW 29th Building nos: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 & Training center	\$ 149 / Mo	
- acct no. 07840		Burglary. 2523 NW 29th Building no. 11	\$ 129 / Mo	
- acct no. 08066		Fire & vaccination. 5555 N Channel	\$ 374 / Mo	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Building & Maintenance

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Honeywell - continued -				
- acct no. 08210		Burglary, 2429 NW 29th Building no. 14.	\$84/MO	
- acct no. 08211		Burglary, 2451 NW 29th Building no. 13, Pattern shop.	\$98/MO	
- acct no. 08212		Burglary, 2455 NW 29th Building no. 12. Training center.	\$85/MO	
- acct no. 08231		Burglary, 2455 NW 29th Building no. 12 warehouse.	\$75/MO	

NMIW  
EXECUTORY CONTRACTS  
10-29-26

CONTRACT CLASSIFICATION Buildings & Maintenance

<u>LESSOR</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT</u> <del>TERMS</del>	<u>OTHER</u>
Honeywell Alarm System	continuous	Security / fire alarm monitoring		
		permission to call 11-3-96		

- Bradavin  
Property  
Trust 12-82  
TO  
12-2017 real property \$19,000/MO
- Nick Chester  
Realty Sale of 15 acres  
bordering  
Cameron  
(Atlas Iron Works)
- Druehl & Ellis  
Commercial  
Brokerage  
Service Properties  
located at  
NW 29th Street  
Portland, Oregon

NMIW  
EXECUTORY CONTRACTS  
10-29-86

CONTRACT CLASSIFICATION Buildings & Maintenance

<u>LESSOR/PARTY</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT</u> <u><del>FEES</del> TERMS</u>	<u>OTHER</u>
Nam Chang	monthly	Sweep parking areas.		Oral agreement.

NMIW

## EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Office Equipment

LESSOR	DURATION	SUBJECT	PAYMENT TERMS FEES	OTHER
• Harris 3M	6-3-85 TO 6-2-89	copier (shop line)	\$90/MO	Lesser sending contract
• AT & T Information System	4-88 TO 3-89	phone system (shop line)	\$175/MO	
• Simplex Time Recorder Co.	10-86 TO 9-87	time clock maintenance	\$93/YR	
• Brunnering	EXP 9-87	blueprinting machine maintenance	\$708/YR	
• Portland Typewriter	5-86 TO 5-5-87	maintenance for 14 typewriters	\$1060/YR	
• Xerox	EXP 11-86	telecopier	\$312/MO	lessor/ purchase
• ERCC	4-1988 TO 3-1989	'KEEPS' wordprocessor	\$1051/MO	lessor/ purchase
• Eastman Kodak	4-1988 TO 3-1989	maintenance on 'KEEPS'	\$905/MO	

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NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION

Office Equipment

LESSOR	DURATION	SUBJECT	PAYMENT TERMS <del>TERMS</del>	OTHER
• Eastman Kodak	9-1986 TO 8-1989	(3) copiers	\$4225/MO	
• Pitney Bowes		postage machine	\$223/MO	
• Pitney Bowes		maintenance on postage machine	\$151/YR	
• Rime Computer Inc.	4-86 TO 3-87	maintenance on various computer hardware	\$3911/MO	
• Dynamic Systems Northwest	4-86 TO 3-87	coax printer	\$1100/YR	
• Rime Computer Maintenance	MONTH TO YEAR	computer terminals	\$515/MO	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Office Equipment

<u>LESSOR</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT</u> <u><del>TERM</del></u>	<u>OTHER</u>
• Sisonetics		software maintenance	\$1100/MO	
• American Business Machines	10-85 TO 10-86	Ricoh FT4065 copier	\$268/MO	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Production Equipment & Vehicles

LESSOR	DURATION	SUBJECT	PAYMENT <del>TERMS</del>	OTHER
• Leasing Associates	ends 11-3-86 ✓ ✓	Chery El Camion ✓ truck ✓ truck	\$123/MO \$124/MO \$139/MO	Atlas from Nicks
• GMAC	1-86 TO 12-88	GMC Suburban	\$266/MO	
• Motorola Communications & Electronics		Maintenance on various radio equipment.	\$537/MO	
• Coverall Uniform Supply	5-88 TO 7-88	Various coveralls.	variable	
• Halton Tractor Company	10-1986	Forklift truck.	\$850/MO	
• Petros Leasing		Boring mill (Skoda)	\$16,000/MO	
• Petros Leasing	10-88 TO 9-91	Horizontal boring mill.	\$14,407/MO	



NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Sales Contracts

CUSTOMER <del>NAME</del>	DURATION	SUBJECT	PAYMENT TERMS	OTHER
• Esco Corporation		Machine 156 turbine blades	Env tall to provide	
• Automar TV Corporation		Cape Edmont (Paralla)	negotiating	
• Marine Transport Line		B.T. San Diego		Work completed
• Holland America Cruise Lines		Nieuw Amsterdam		Work completed. No written contract.
• Maritime Overseas Corporation		Overseas Guinean		
• Supervisor of Shipbuilding Conversion & Repair (US Navy)		USCGC Polaris		Work completed. Contract no. N00024-85-4- 8197
• Ames		USS Henry B. Hilson		Work Completed Contract no. N00024-82 R-850

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Sales Contracts

<u>CUSTOMER</u> <del>LESSOR</del>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT</u> <u>TREES</u>	<u>OTHER</u>
• Dept of the Navy Naval Sea Systems Command		USS Cushing		Work completed. Contract No. N00024-85-C-9503
• Dept of the Navy Naval Sea Systems Command		USS Earle		Work completed. Contract No. N00024-85-C-9501
• Naval Sea Systems Command		Master Agreement for Repair & Alteration of Vessels.		Contract No. N00024-85-H-8197
• Dept of the Navy Military Sealift Command		Master Agreement for Repair & Alteration of Vessels.		Contract No. N00033-85-H-0307

NMIW  
EXECUTORY CONTRACTS  
10-29-86

CONTRACT		CLASSIFICATION			<u>Sales Contracts</u>	
<u>CUSTOMER</u> <del>1-84</del>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT</u> <del>TERMS</del>	<u>OTHER</u>		
• Chevron Shipping Co.	Continuous	Periodic overhand work.	Per ship			
• Chevron Shipping Co.	Continuous	Standing service contract.	Per ship.			
• International Fabrication & Supply Corp.		Referral agreement	Percentage of cash receipts.			
• Matson Navigation Company	Continuous	Master work agreement	Per ship.			
• Mitsui Engineering & Shipbuilding Company	9-84 TO 8-99	Confidentiality agreement.			Re: SS Arco California	
• Same	3-84 TO 2-99	Same			Re: SS Brooks Ranger	
• Same	Same	Same			Re: SS Thompson Pass	
• Same	1-84 TO 12-98	Same			Re: SS Antiguan Pass	

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT

CLASSIFICATION

Sales Contracts

<u>CUSTOMER</u> <del>1-2-86</del>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u> <del>TERMS</del>	<u>OTHER</u>
• Mitsui Engineering & Shipbuilding Company	1-84 TO 12-98	Confidentiality agreement.		Re: SS Kenai
• Some	Some	Some		Re: SS Keystone Canyon
• Exxon	Continuous	Master work agreement	Per ship.	
• Samuel Montague & Co., Ltd.	signed 7-4-86	Letter of Undertaking.		Re: Cape Edmont.
• US of America Defense Investigative Service	signed 4-13-84	Security agreement		

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Sales Contracts

<u>CUSTOMER/ LESSOR</u> PARTY	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u>	<u>OTHER</u>
• G. C. Ridley & Company		Company representative.		
• A. Silchenstedt		Same.		
• World Ocean Engineering Co.		Same.		
• Sanko Steamship Co.		Same		
• Paul Gregersen & Co.		Same		
• Kroghstad Shipping		Same		

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Insurance & Employee Contract

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
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- COMPREHENSIVE GENERAL LIABILITY
- COMPREHENSIVE AUTOMOBILE LIABILITY
- FOREIGN LIABILITY
- MARINE CHEMISTS PROFESSIONAL LIABILITY
- PRIMARY SHIP REPAIRER'S LEGAL LIABILITY
- FIRST EXCESS SHIP REPAIRER'S LEGAL LIABILITY
- SECOND EXCESS SHIP REPAIRER'S LEGAL LIABILITY
- FIDUCIARY LIABILITY

• WORKERS COMPENSATION - STATE OF OREGON

• MARINE HULL COVERAGE ON APB "COLLETON"

• SHIP REPAIRER'S WATER QUALITY INSURANCE

• BLANKET PROPERTY PROGRAM

• VALUABLE PAPERS & RECORDS

• CRIME COVERAGE

• BOILER & MACHINERY

• SCHEDULE OF SURETY BONDS

--- See Separate Schedule ---

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Insurance & Employee Contracts

<u>LESSOR/PARTY</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u>	<u>OTHER</u>
• Pacific Coast Metal Trades District Council	up to 1-8-87	collective labo. bargaining agreement	n/a	
• William H. Jarin	1-81 TO 12-2007	Employment contract.		

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Insurance & Employee Contracts

LESSOR / PARTY	DURATION	SUBJECT	PAYMENT <del>FEES</del>	OTHER
• First Interstate Bank of Oregon	continuous	profit sharing plan	variable	
• Kaiser Foundation Health Plan with prescription coverage	Annual Renewal 1/1	Medical	POLICY # 1601-001 1601-002	paid monthly
• The Bankers Life	Annual Renewal 1/1	Medical/ \$5000 Life Insur.	18068	✓
• Oregon Dental Service	<del>Administrative</del> Services Only - 30 days notice to terminate	Dental	3089	✓
• Standard Insurance Company	Annual 6/1 Annual 6/1	Long Term Disability Life - EE (active + Retirees) - Dep.	308521 308521-C	✓
• American Home Assurance Company	until terminated	A&D	EAP-900-74-55	✓



NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Pending Litigations

<u>PARTY</u>	<u>DURATION</u>	<u>SUBJECT</u>	<u>PAYMENT TERMS</u>	<u>OTHER</u>
• Continental Maritime				On appeal. Case no. C85-520 Northern District of California
• Employers Mutual Casualty		Rever insurance claim.		Case no. A8607-04552 Multnomah County Circuit Court.
• General Steel, Inc.				Case no. A8608-05118 Multnomah County Circuit Court.
• Marine Carpenter's Pension Fund				Case no. C86-7945T West District of Washington at Tacoma.

• Tonkon, Torp,  
et. al.

signed  
9-24-86

Contingency  
agreement

• Port of  
Portland

# Workers Compensation Claims:

LAST NAME	FIRST NAME	D/INJURY	INJURY	OCCUPATION	ATTORNEY	PHYSICIAN
Ballard	Gary	4/22/86	Fume exposure S. 49	Painter	Jolles/Garone	Bovard
Bellack	Elmer	2/44	Asbestos-related death		Preston	
Boyle	Richard E.	11/2/82	Hearing loss			
Burkett, Jr.	Guycell	10/14/85				Brett
Burkhardt	Bobby T.	5/17/84	Low back	Sheet metal		Dreislin
Christenson	Steven W.	11/21/85	Epoxy	Painter	Hytowitz	Blair
Clark	George A.	4/4/86	Solvent encephalopathy	Painter	Preston	Heatherington
Cochran	Michael	8/2/84	Low back, psych.	Boilemmaker	Casey	
Colahan	Martin	2/23/81	Back	Sheet metal	Hytowitz	
Cook	Donald E.	10/26/82	Back			Kaiser
Craig	Martha R.	8/31/82	Cervical	Laborer	Wilson 'til 8/84/ Robinowitz 2/86	T.J. Rosenbaum
Dowler	Harold	8/10/82	Low back	Electrician	O'Malley	Thompson
Endicott	John	5/2/86	Fume exposure	Carpenter	Royce	Trostel
Engstrom	Samuel	6/15/83	Low back	Pipefitter	Hytowitz	Nason
Fullman	Steven C.	1/3/86	Head injury	Pipefitter	Tauman	M. Johnson
Garza	Jose	1/29/86	Hearing loss	Boilemmaker	Ofelt	Lipman
George	Dennis D.	2/17/81	Low back	Boilemmaker	O'Malley	Scot
Gibbler	Thomas P.	12/20/83	Low back	Boilemmaker	Ofelt	Kaiser
Hergenrader	Roger	7/16/86	Stress	Sheet metal		Miracle/Mullen
Lovel	Charles E.	2/21/86	Epoxy S. 49	Painter	FWA	Kaiser
McClure	Lynn R.	3/1/82	Cervical	Rigger	Ofelt	Nash
Mullen	Mike E.	11/4/85	Hrg. loss (L)/Tinnitus	Pipefitter	JSM	Epley
Musport	Bert W.	2/2/82	Cervical	Pipefitter	Sly	CHU/Hahn
Niemeyer	Mark J.	10/17/84	Knee		Schwartz	
Noakes	Russell J.	4/22/85	Low back	Driver	Wolf	Grossenbacher
Persons	Buddy	1/28/86	Burn - R. CTS	Carpenter	Skalak	Silver
Peterson	Richard	1942-46	Asbestosis/S.4 coverage	Electrician	FWA	Rudin
Porter	Sam	12/8/81	Back	Rigger	Pozzi	Saltary
Prince	Blidie	4/1/86	Hernia	Machinist	Francesconi	Uhle
Stelton	Jas. Gary	3/30/82	Cervical	Sheet metal		Mason
Thompson	Marva J.	2/5/85	R. shldr./low back	Boilemmaker	Ofelt	Sironian

Rev. 8/22/86

Richard Peterson

type only these  
columns

NWMAR133884

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Pending Litigation

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Worker's Compensation - continued - Valley Cruise Robert Stevenson		Back injury. Low & mid back, shoulder, hands and cervical.		
William Schwartz		Low back strain		
Grant Huserk		Knee & low back		
Oscar Wilson		Mid-section injury. Psychiatric.		
Richard Cropper		Hearing loss & back injury.		
Edith Takameno		Neck & shoulders.		
Joan Shepherd		Knee & back injuries.		
William Smith,		Hearing loss & back injury.		
Ed I Litcraft		Industrial bronchitis.		
Guzzil Burkett		Cervical.		
John Johnson		Back injury		
Al Gooding		Industrial bronchitis		

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EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Pending Litigation

LESSOR	DURATION	SUBJECT	PAYMENT TERMS	OTHER
Workers Compensation - continued -				
Craig Glasin		Eye & back injury.		
Donald Cornell		Ankle injury.		
Burton Head		Epidy exposure.		
Herbert Harris		Hand & low back injuries.		
James Siler		Cervical		
Sharon White		Back & leg injuries.		
Al Bowser		Arm injury.		

NMIW

EXECUTORY CONTRACTS

10-29-86

CONTRACT CLASSIFICATION Pending Litigation

LESSOR/PARTY	DURATION	SUBJECT	PAYMENT TERMS	OTHER
• Chevron USA, Inc. & Priestley Oil & Chemical Co.				

Remaining counsel will respond 11/3/86



First Interstate Bank  
of Oregon, N. A.  
Special Credits Department  
P. O. Box 3131  
Portland, OR 97208  
503 225-4659

Nancy Bordwine  
Vice President

April 16, 1987

Ronald L. Walquist  
Vice President  
NORTHWEST MARINE IRON WORKS  
P.O. Box 3109  
Portland, Oregon 97208

Dear Ron:

Enclosed is a Short-Form Easement which is to be signed by an authorized representative of the Port of Portland. This easement covers buildings 43 and 73. A UCCL-A has been filed with Multnomah County on both of these buildings. The easement will complete our documentation with respect to the assets pledged to the bank and located outside of the corporate property. Please arrange to have this easement executed and returned to me.

You will recall that the post-confirmation loan agreement provides for reimbursement to the bank for fees associated with preparation of loan documents and filing fees. Please forward your check payable to First Interstate Bank of Oregon, N.A. to cover reimbursement of the following:

Attorney fees	\$3,040.00
UCC filing fees	16.50
Mortgage Recording fees	21.00
	<hr/>
	\$3,077.50

If you have any questions, please give me a call.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Nancy', written in dark ink.

NWMAR133888

# TOP PORTLAND AREA FEDERAL CONTRACTORS (Part 1)

Ranked by total value of contracts awarded for fiscal year 1985*						
Rank	Contractor	Total value of contracts awarded (\$000)	Total number of federal contracts	Departments contracted with	Products/services delivered	Principal place of performance
1.	Freightliner Corp. P.O. Box 2649 Portland, Ore. 97207	\$34,125	7	Defense	Earth moving and excavating equipment	Hampton, Va.; Portland, Ore.
2.	Northwest Marine Iron Works P.O. Box 3109 Portland, Ore. 97208	\$34,111	46	Defense, Transportation	Maintenance and repair of ships and small craft	Portland, Ore.
3.	Ward & Associates Inc. 800 S.W. Sixth Ave. Portland, Ore. 97204	\$14,082	26	Agriculture, Commerce, Defense, Labor	Management support services	Portland, Ore.; Palmdale, Calif.
4.	Wadal International Inc. P.O. Box 5320 Portland, Ore. 97207	\$9,408	7	Defense	Construction, dredging operations	Imperial Beach, Calif.; Kelso, Wash.
5.	Peter Knott Bros Inc. P.O. Box 1798 Vancouver, Wash. 98661	\$7,273	2	Defense	Construction	Barbers Point, Hawaii
6.	Donald M. Drake Co. 1740 N.W. Flanders St. Portland, Ore. 97209	\$5,806	7	Defense, Veterans Administration	Construction	Fairchild Air Force Base, Washington; Portland, Ore.
7.	Shawin Pipeline Dredging Co. P.O. Box 5320 Portland, Ore. 97207	\$5,044	3	Defense	Maintenance and dredging operations	Ventura, Calif.
8.	Oregon Iron Works Inc. 6700 S.E. Laramie Road Clackamas, Ore. 97015	\$4,251	6	Defense	Pontoons and floating docks, miscellaneous items	Clackamas, Ore.
9.	Northwest Regional Educational Laboratory 300 S.W. Sixth Ave. Portland, Ore. 97204	\$4,095	2	Education	Educational research and development	Portland, Ore.
10.	Grady Harper & Carlson Inc. 2845 N.E. Argyle Portland, Ore. 97211	\$4,093	2	Defense	Construction	Portland, Ore.
11.	Port of Portland P.O. Box 3529 Portland, Ore. 97208	\$3,862	7	Defense, General Services, Administration	Maintenance and dredging, lease-lease of office buildings	Portland, Ore.; Long Beach, Calif.
12.	Northwest Packing Co. P.O. Box 30 Vancouver, Wash. 98661	\$3,633	14	Agriculture, Defense, Veterans Administration	Fruits and vegetables	Vancouver, Wash.; Lorton, Mich.
13.	State of Oregon P.O. Box 3503 Portland, Ore. 97207	\$3,629	10	Defense	Wildlife management	Trail, Ore.; Bonneville, Ore.
14.	Precision Wood Products Inc. P.O. Box 520 Vancouver, Wash. 98660	\$3,420	13	Defense	Miscellaneous materials handling equipment	Chesham, Wash.; Vancouver, Wash.
15.	Ambac Foods Inc. P.O. Box 23884 Portland, Ore. 97223	\$3,404	6	Agriculture, Defense	Fruits and vegetables	Cornell, Wash.; Portland, Ore.
16.	Bushings Pacific Corp. P.O. Box 188 Portland, Ore. 97207	\$3,096	69	Defense	Plywood and veneer	Various
17.	Westinghouse Electric Corp. 8801 S.W. Macadam Ave. Portland, Ore. 97201	\$2,896	7	Defense	Generators and generator sets	East Pittsburgh, Pa.
18.	P.E. Ward Inc. 2000 E. Columbia Way Vancouver, Wash. 98661	\$2,660	2	Transportation	Construct highways, roads, streets and bridges	Sevierd, Alaska
19.	Stillingham Corp. 5555 N. Channel Ave. Portland, Ore. 97217	\$2,186	5	Defense	Maintenance and repair of ships and small craft	Portland, Ore.
20.	Kaiser Foundation Health Plan 3800 N. Interstate Ave. Portland, Ore. 97227	\$1,581	12	Defense	General health care	Portland, Ore.
21.	Tranaco Industries Inc. P.O. Box 20429 Portland, Ore. 97230	\$1,574	6	Defense	Maintenance and repair of miscellaneous equipment	Portland, Ore.
22.	Copenhagen Utilities and Construction Inc. P.O. Box 429 Clackamas, Ore. 97015	\$1,800	7	Agriculture, Interior, Veterans Administration	Construction	Washington, Oregon
23.	Green Zellerbach Corp. P.O. Box 17128 Portland, Ore. 97207	\$1,794	22	Defense, Treasury, General Services, Administration	Stationery and record forms, paper and paperboard	Portland, Ore.
24.	Hearin Forest Industries P.O. Box 25367 Portland, Ore. 97202	\$1,426	31	Defense	Plywood and veneer	Various
25.	North Pacific Cannery and Packers Transportation Division P.O. Box 20429 Portland, Ore. 97230	\$1,380	8	Agriculture, Veterans Administration	Fruits and vegetables	Salem, Ore.; Stayton, Ore.

"THE MARKET"



KOMINERS, FORT, SCHLEFER & BOYER

1401 NEW YORK AVENUE, NORTHWEST  
WASHINGTON, D.C. 20005

TELEPHONE (202) 467-5900  
TELEX 904145 (MARLAW WASH)  
TELECOPIER (202) 783-6898  
CABLE "MARLAW"

PETER FRIEDMANN

TO: Oregon Shipyard Interests

FROM: Peter Friedmann

SUBJECT: Economic Impact of Nimitz Battlegroup

The Maritime Alliance of the Pacific Northwest (based in Seattle) is undertaking an analysis of the economic benefit of locating the Nimitz battlegroup in Everett, Washington. The results are as follows:

<u>Vessels</u>	<u>Annual Value of Contracts</u> <sup>1/</sup>
1. Nimitz aircraft carrier	\$2 million <sup>2/</sup>
2. Guided missile cruisers (2)	\$1.4 million
3. Other vessels (10)	
a. Destroyers (2)	
b. Guided missile destroyers (2)	
c. Guided missile frigates (6)	
d. Total SRA's/PMA's for a, b, and c	\$6.75 million
e. Total regular overhauls for a, b, c (average 2.5 overhauls annually at \$15 million each)	\$37.5 million
<hr/>	
4. TOTAL:	\$47.65 million

<sup>1/</sup> These figures are very conservative, since they are based primarily on the recent history of private sector contract awards in San Diego, and do not include "growth" which will make the total significantly higher.

<sup>2/</sup> Puget Sound Naval Shipyard, Bremerton will likely do the overhaul work on the Nimitz and Guided Missile Cruisers, while SRA/PMA work can be done by private yards.

NWMAR133891

It is interesting to note that the Regional Contracting Department at the Naval Supply Center, Puget Sound, has been imposing a "two-hour driving time from Supships Seattle" restriction on bidding for service and maintenance, thus eliminating a number of Portland companies. This inconsistency with the recently announced expansion of the Puget Sound homeport area is being identified to the Navy and our friends on Capitol Hill.

Finally, attached is a letter recently sent to Washington State Governor Booth Gardner by the Maritime Alliance of the Pacific Northwest. Please notice the marked paragraphs which discuss very specifically the expansion of the Navy homeport area, and the Alliance's support for this development.

# MARITIME ALLIANCE OF THE PACIFIC NORTHWEST



July 24, 1986

The Honorable Booth Gardner  
Governor of the State of Washington  
Executive Department  
Legislative Building  
Olympia, Washington 98504

Dear Governor Gardner:

I want to reiterate our telephoned commendation July 11 and sincere thanks for your efforts in support of Homeporting. Your public reaffirmation that day in Everett of your commitment to the Everett Homeport, and continuing cooperation with the U.S. Navy and Washington's Congressional delegation, and intent to work with the State Legislature to obtain State funding for the Everett Homeport is extremely significant.

Your comments neutralized perceptions that our State was not committed to Homeporting, and definitely buoyed the broad base of Homeport proponents from throughout this region.

I know your schedule is extremely busy, and on behalf of the Maritime Alliance, I thank you, Governor, for taking the time to again emphasize your support of Homeporting.

I also have some good news to convey to you on the same subject. Secretary of the Navy, John Lehman, and Oregon's Senator Mark Hatfield, met quite recently. The reported outcome of their meeting is that Oregon shipyards will be eligible for the first time to bid on short term (six months' duration or less) Navy overhaul contracts for vessels homeported on Puget Sound. (Copy of news article enclosed.)

Whereas only two of Oregon's U.S. Representatives voted in favor of Homeporting earlier this summer, it is now assumed that Senator Hatfield's support has been well reinforced by this prospect of more work for Oregon yards, subcontractors and workforce.

The Alliance welcomes this. The maritime industry's unwritten motto is: "It's the ship that pays the bill". As I've explained in my previous letters to your office, Washington's maritime industry, as well as Oregon's, Alaska's and Idaho's, is beset with severe economic problems. Therefore, if the announced change in Naval policy will help get the Nimitz task force to the Pacific Northwest, we applaud it wholeheartedly. Our industry may compete within its region, but first it needs the ships over which to compete. Besides, it is the competitors from Southern California, the Gulf, East Coast and foreign ports who are our true competition.

(206) 932-1800

P.O. BOX 46409 • SEATTLE, WA 98126

NWMAR133893

Governor Booth Gardner  
July 24, 1986 - Page Two

In addition, we can now likely count on many Oregonians to join forces with Washington proponents to work in support of Homeporting.

The Alliance has been extremely active in energizing a grass roots lobby for strategic Homeporting. We earlier sent you a copy of our "action pack", compiled after a meeting with Senators Slade Gorton and Jake Garn. Feedback from many recipients is encouraging. An increasing number of individuals from Labor Unions, business, heavy industry, financial institutions and large corporations are engaged in lobbying for Senate support of Homeporting, with emphasis on its importance to the entire nation's defense.

There is a profound sense of unity amongst the business, labor and industry proponents, and we certainly look to you, Governor, as having assumed a key role in leading the campaign to bring the Navy to Everett.

Our Alliance delegation would still like to meet with you to discuss our and related industry's situation as it affects the State of Washington. And all members and associates stand ready to help you in your efforts to support strategic Homeporting. Please let us know how we may be of assistance to you in this important endeavor, by calling me or Alliance coordinator Jan Smith at our Seattle business office, weekdays, 932-1800.

Again, thank you for your time, your help, and your understanding.

Yours truly,

Gwen Fraser  
Chairman

enclosures


GF:js

NWMAR133894

Seattle Post-Intelligencer, Tuesday, August 26, 1986

# Navy plans major buildup in the North Pacific

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## ***Recently Retired Navy Numbers Man Speaks Out . . .***

# **"We Need 650 Ships in the U.S. Merchant Marine"**

*PREPARED STATEMENT OF  
CAPT. ROBERT W. KESTELOOT, USN, (RET.)  
VICE CHAIRMAN, TRANSPORTATION INSTITUTE*


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## MSC Wants More In Ready Reserve Fleet

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# Tanker Demand May Rise

## UK Consultant Foresees Refined Oil Trade Booming

By SIMON CAMERON MOORE

Copyright

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## Marad OKs Sale Of Lykes Shins

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Port of Portland

Portland Ship Repair Yard




**Friday, November 7, 1986**

## **Asian Firms Join Bidding On Alaska Oil**

**By A.E. CULLISON**  
Journal of Commerce Staff

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**Monday, November 10, 1986**

## **Firms Sought To Handle Reserve Ships**

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Port of Portland

Portland Ship Repair Yard

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THE JOURNAL OF COMMERCE, Friday, July 25, 1986

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# Navy Opens Door To Overhaul Jobs

Portland Shipyards Can Bid  
On Short-Term Contracts

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# COMPETITION FOR SHIP OVERHAULS

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by public and private yards on them cannot be compared

—JACK CUSHMAN

Copyright

"THE COMPANY"



COPY

*Commander in Chief  
United States Pacific Fleet*

22 August 1986


Dear Mr. Beall,

Thank you for mailing me the copy of the Navy Edition of "Portside." Portland's support for, and welcome to, the Navy has been extraordinary and especially pleasing to me. As the Navy's senior representative to the '86 Rose Festival, I was able to sample some of Portland's excellent hospitality first hand.

Reports from the ships in overhaul at Northwest Marine Iron Works indicate that they have received royal treatment from Portland as well as a first-class overhaul.

Thank you for your thoughtfulness and support.

Sincerely,

  
J. A. LYONS JR.  
Admiral, U.S. Navy

Mr. Jim Beall  
Attorney at Law  
Garvey, Schubert, Adams & Baker  
1211 S.W. Fifth Avenue, Suite 2650  
Portland, Oregon 97204

GARVEY, SCHUBERT, ADAMS  
& BARER, PORTLAND

AUG 26 1986

NWMAR133903

Herman —  
Sorry I missed  
your game, but  
Charlie said you  
finally pitched  
"decent". Here's  
a hat for you —  
"Chuck" said "Black"  
would be appropriate.  
Take care,  
John Colombo

## Ship repair yard tries new tack, wins new jobs

By DICK MONTGOMERY  
Copyright



Copyright

Copyright

## Revamped ship leaves

Copyright

routine five-year overhaul

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## Judge ref

By CARMEL FINLEY

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## Rape victim still silent

Copyright

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## The Liability Insurance Crisis

# Now *that's* a window o

Copyright

Copyright



### NOTEBOOK

Steve Woodward

Copyright



THE OREGONIAN, THURSDAY, JUNE 26, 1986

# Portland wins key fight to land ship work

By JAMES C. FLANIGAN  
of The Oregonian staff

Copyright

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Port of Portland

Portland Ship Repair Yard

NWMAR133907

THE JOURNAL OF COMMERCE, Tuesday, December 17, 1985

TODD SHIPYARDS CORPORATION

# Portland Yards Win Naval Work

THE JOURNAL OF COMMERCE,  
Wednesday, December 18, 1985

Trading Heavy

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## Ship Industry Faults Totem Plan for Lykes

Copyright

By ROBERT F. MORISON

Copyright

Copyright

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# Northwest Marine unloads Electrical Construction Co.

(b)(4) copyright

Copyright

# Sale of wiring firm improves management focus

Copyright

[Redacted]

## Ashton-Tate eyes Pearlsoft

By MICHAEL A. ANDERSON

Copyright

[Redacted]

(b)(4) copyright

[Redacted]

pair of deckhouse structural damage (Item 107) and the modifications to the ship's spaces and voids scheduled for the upcoming availability period are well within NMIW's current level of expertise.

**c. Mechanical, Fluid and Electric Equipment Change Out and System Integration**

NMIW currently has in-house both the management and craft technical expertise required to accomplish the mechanical, fluid, and electric equipment change out and system integration tasks specified by the USNS OBSERVATION ISLAND (T-AGM 23) work scope. Our highly experienced shop and shipboard machinery, pipe and electrical craft teams are familiar with the removal, repair/modification, reinstallation and test/check out operations required by overhaul and conversion projects. Their experience and training ensure appropriate safety measures are implemented, protection of equipment and systems is effected and maintained, and that systems are properly tested and checked prior to release for operation. The overhaul, repair and/or modifications to the USNS OBSERVATION ISLAND's (T-AGM 23) boiler feed pumps, demineralized cooling water pumps, HP and LP turbine couplings, boilers, system valves, Sponsor Power Improvements, other power systems and dumbwaiter/elevator equipment are consistent with work presently being expertly accomplished at our facility.

**d. Habitability Support Systems (Mechanical, Electrical, HVAC, Fluid)**

As outlines in section "c" above, the NMIW team has continuously demonstrated the technical expertise required to accomplish habitability conversions and installations. We are currently performing high quality habitability support system and finish work that is nearly identical to that defined by the USNS OBSERVATION

ISLAND (T-AGM 23) specifications. We are thoroughly familiar with the production processes and requirements for mechanical, electrical, HVAC and fluid system ripout, modifications, installations and tests associated with habitability upgrades.

**e. Exterior Weather Deck Preservations**

Current competence in this area is provided by our trained cleaning and coating personnel. This team is demonstrating their expertise on a daily basis on several projects presently at the NMIW facility. Proper surface preparation, including degreasing and mechanical cleaning, and the controlled application of paint coatings are considered critical to providing long lasting high quality surface preservation. NMIW is familiar with the C & E Corrosion Control Procedure No. 0200-000 dated September 1985 and will comply with its requirements where specified in USNS OBSERVATION ISLAND (T-AGM 23) work scope.

**f. Blasting and Coating of Tanks and Voids**

NMIW maintains a highly qualified sandblast crew that is active on virtually every major repair and/or conversion project we handle. Together with our coating personnel (described in section "e" above) we have the in-house technical expertise for meeting abrasive blasting requirements in accordance with the Steel Structures Painting council (SSPC) Painting Manual and the proper application of a wide range of high performance coating systems in tanks/voids.

**Related experience/competence**

The following are examples of large ship conversion and repair projects that we have accomplished which required technical competence similar to that required for this availability of the USNS OBSERVATION ISLAND (T-AGM 23). It should be noted that our existing key man-

agers and craftsmen worked these jobs. Over the past five years we have averaged 255 ship construction, conversion or repair jobs per year.

1. **Overhaul of the USS CUSHING (DD-985) (29 Sep 85 - 30 Jul 86)**

NMIW completed this large and complex project on 25 July 86, five days prior to the contract delivery date. Key work items included:

- a. Major structural prefabrication and shipboard installations for LAMPS MK III helicopter handling system and OUTBOARD electronic warfare facility.
- b. Extensive overhaul and repair of propulsion, auxiliary and habitability equipment and associated systems.
- c. Large conversion and outfitting of existing shipboard areas into crew berthing and habitability spaces.
- d. Abrasive blasting and coating of the fuel oil and JP5 tanks, as well as most of the ship's weather areas.

2. **Overhaul of the USS DULUTH (LPD-6) (30 Sep 85 - 30 Jun 86)**

This major overhaul was successfully completed on 23 June 86, seven days prior to the contract delivery date. Areas of key effort were:

- a. Overhaul and repair of ship's boilers, propulsion and auxiliary machinery and systems.
- b. Repair and renewal of the ship's mission critical ballast and deballast systems.
- c. Blasting and coating of the ship's underwater hull, weather areas, and tanks.

3. **Conversion and Repair of USNS OBSERVATION ISLAND (T-AGM 23) (07 Jan 85 - 18 Mar 85)**

NMIW completed this challenging project on schedule. Significant production effort included:

- a. Prefabrication, assembly, installation and outfitting of a new sponsor deckhouse.
- b. Fabrication and installation of new cantilevered bridge wings.
- c. X-band radar installations.
- d. Installation of two new distilling plants.
- e. Extensive habitability upgrades.

4. **Overhaul and Conversion of USNS OBSERVATION ISLAND (T-AGM 23) (6 Jan 84 - 2 JUL 84)**

Due to the critical nature of the ship's mission, the project was assigned a DX-BRICKBAT 01/FAD 1 priority.

In view of the size and complexity of the project the top concern of the Government was the ability of any contractor to complete the job prior to the CNO completion date of 7 JUL 84. We met or exceeded all milestones including undocking 5 days early. We completed this project on 2 JUL 84 which is 5 days early. The key work items included:

- a. Change out of 4 - 500 KW SSTG sets with 3 - 2000 KW SSTGs taken from decommissioned fleet ballistic missile submarines (SSBN). This change out included installation of all new load and distribution centers, controls and cables, and supporting auxiliary equipment.
- b. Installation of major new superstructure sections, barbettes, and supporting systems for a 90 ton 30 foot diameter dish X-band radar antenna. This included outfitting all new power and equipment rooms with associated equipment and support systems, and the align-

- ment of the X-band barrette to the ship's reference planes.
- c. Installation of a major habitability system including a new ship's reefer system, (both equipment and freeze and chill rooms) and many new state-rooms and cabins.
- d. Reballasting of the ship and conducting inclining experiment.
- e. Accomplishing a major overhaul package involving major repairs to pumps and motors, turbines, shafting and shaft alignment, hydraulic systems, ship's HVAC system, and tank repairs and recoating.
- f. Installation of 52 tons of reinforcing steel to strengthen the forward deck house.
- g. Total removal/reinsulation of all thermal insulation (asbestos) in engine room.

5. **Conversion of the USS SHERBORNE to the USNS RANGE SENTINEL**

Prefabbed 100% new superstructure, deck houses and radar platforms. Installed superstructure, deck house, radar platforms, all supporting structural members and all new equipment foundations. Changed out and installed 95% new ship mechanical, fluid, habitability, and electrical equipment and systems. This change out included installation of a totally new electrical power system consisting of five new 1,000 KW SSTGs and their auxiliary systems, and new power distribution centers and switchboards. It also included installing HVAC and control systems for the new radar and electronic equipments and rooms and for a completely new ship's habitability suite. This modification essentially was a reoutfitting of the ship from the ground up. We also installed a totally new system of computers, X-band

radars, communications systems, and control/monitor panels for missile tracking systems.

6. **Construction of Barges ALASKA and OREGON (400' long x 80' wide x 25' deep)**

Prefabbed and assembled in shop then transferred to drydock in 20' long x 80' wide sections of the barges. Fabricated and installed onboard a full length deck house. Fabricated and installed a large complex conveyer system to handle the cargo of urea. Installed ballast system, hydraulic system for end doors, and all electrical systems, pumps and piping. Installed diesel generator systems.

7. **Conversion of USS CHEPATCHET to the SS OCEAN ENERGY CONVERTER**

Prefabbed large foundations for large volume pumps and heat exchangers and a large diameter "moon pool" structure for direct sea access. Converted cargo tanks 2, 3, and 4 to a large machinery space for energy conversion equipment. Manufactured and installed "moon pool" and gimbal assembly, three 72" pumps for pumping sea water from a depth of 2,000 ft., installed 500 ft. of 72" and 60" piping. Prefabbed and installed control house and monitoring house.

8. **Conversion of SS SISTER KATINGO to SS CORNUCOPIA**

Prefabbed and installed 100% new superstructure. Removed old vessel forebody (oil tanker) and installed new forebody (anhydrous ammonia carrier). Fabricated new auxiliary machinery space in after body. Fabricated all new piping systems in superstructure and in machinery spaces to handle anhydrous ammonia. Installed (2) 1,500 KW SSTGs with all new switchboards and control centers. Installed new diesel generators and switchboards. Installed new living and messing

quarters with new supporting systems including sewage treatment system.

9. **Conversion of a bulk cargo carrier to USS DEEPSEA MINER**

Prefabbed main deck structures and foundations and derrick for large mining equipment and gimbal system. Fabricated and installed mining derrick, geodesic dome, dredge pipe stowage racks and a container van for auxiliary diesel generators. Converted two (2) wing tanks into hydraulic spaces. Installed hydraulic machinery capable of dredging at a depth of 18,000 ft. Installed large capacity 1,500 psi air systems and 6 new diesel generators with electrical gear to support mining operations. Expanded all messing and berthing to handle mining crew personnel.

10. **Inert gas systems (IGS) installations on eleven Alaskan tankers**

Prefabricated IGS deck houses with all foundations, machinery, and equipment preinstalled. Prefabbed all IGS distribution piping systems. Installed all systems and IGS houses and integrated into all ship systems.

11. **Overhaul of USS HENRY B. WILSON (DDG-7)**

Removed 7 old HVAC systems and installed 3 new 125 ton HVAC systems with all associated piping, electrical, ventilation ducting, foundations, control systems and support piping, tubing and panels. Removed for subcontractor overhaul and reinstalled all radars, gun and missile directors, missile and rocket launchers, gun mounts, computers, and communications and satellite equipment. Installed all new tracking and search radar repeaters and a new electronic warfare system, modified and upgraded with new equipment crew berthing, galleys and laundry.

12. **Overhaul of four FF-1052 class frigates**

Installed new 75 ton HVAC system. Removed for subcontractor repair and reinstalled all electronics, weapons and communications equipments, including class alterations and upgrades on many systems. Modified sonar domes for rubber windows which required extensive steel work with HY80 steel. Installed sewage treatment systems. Modified and upgraded crew berthing, galleys, messing and laundry spaces.



## **Part 2: Management Capability**

NMIW's most valuable asset is its strong management group. We have assigned our most capable and experienced people to this group. Participation in a continuing management training and education program further enhances their qualifications. We have assembled from this group a strong and dedicated management team to manage this overhaul. Their past achievements and dedication assure a successful and timely overhaul.

### **2.1. Organizational Approach**

#### **2.1.1 Organizational Structure**

NMIW is a marine company organized and managed primarily for the purpose of ship repair, conversion and construction. This organization has successfully served this purpose for many years. It has grown and evolved to meet the dynamic needs of large, complex government (Navy, MSC, and Coast Guard) and commercial ship contracts.

The present structure of the company is shown by EXHIBIT 2.1.A, Organization Chart. The organization is formed along functional lines. For major projects, matrix project organizations are formed from our highly experienced and trained pool of personnel. These project organizations are then dedicated to their assigned project until successful completion is accomplished. Remaining company personnel serve to support the project to successful completion. EXHIBIT 2.1.A shows the interrelationship between the project organization for these overhauls and the company's functional organization.

We have never required nor used the services of management subcontractors for the many large, complex government and civilian ship overhauls we have accomplished. We do not plan to use a management subcontractor for this project. However, for combat systems overhaul and testing we will use our Master Ordnance Repair (MOR) subcontractor to supervise the combat systems team. Our experienced project team assigned to this project is fully dedicated to its success. We anticipate no changes in their assignments. Individual qualification briefs for the personnel shown on EXHIBIT 2.1.A are included in Section 2.2.

#### **2.1.2 Project Organization**

The management and supervisory team that will conduct the overhaul will be the same nucleus of people who successfully accomplished the recent two overhauls and conversions of the USNS OBSERVATION ISLAND. They have successfully accomplished our most recent long term projects. The last two projects, USS STEIN (FF-1065) and USS HENRY B. WILSON (DDG-7), were of twelve month duration and were completed well ahead of their originally scheduled completion dates. This team is made up entirely of in-house personnel except for the MOR Manager from our subcontractor, PacOrd, who will serve as a member of our management team for combat systems overhaul and testing. They have performed a "second phase" upgrading on the USNS OBSERVATION ISLAND. That contract completed in mid-March 1985. The strength of this existing team lies in its cooperative effort to achieve the common objective of providing a quality and timely product with optimum efficiency and cost effectiveness. Their strength as a team is initiated during the writing of this proposal, as the authors are primarily the same group of management people we will use to manage these overhauls. Key personnel cited who were not part of the writing team have reviewed the plan and agreed that the proposed plans can be successfully implemented as written. We thereby gained their commitment towards our common objective.

We have additional management and supervisory people available who have experience in Navy overhauls on this class vessel. Should any change dictate a need for additional people, they will be assigned to the project as required.

## 1.6 Quality Assurance

NMIW has a Quality Assurance (QA) System that is based on the philosophy that each individual workman is responsible for control of quality. Company policy, stressed to all personnel, is that it is up to each individual to meet the specified quality requirements.

We instill a QA attitude in our workers by keeping them fully informed of the technical requirements for accomplishment of their assigned tasks. We do this by providing our workers with proper specifications and technical information, by supplying proper materials and quality tools, and by providing adequate training and supervision on a daily basis. Finally, we inspect our work and performance prior to declaring a task complete and ready for testing or sign off.

All subcontractors work to the same QA requirements as NMIW for performance of work on Navy jobs. Subcontractors wishing to do business with NMIW are subject to an audit by the QA Department who determine if facilities, personnel, and tools can perform to the specification requirements. The Subcontractor Quality Evaluation Report, EXHIBIT 1.6 A, is on file in the QA Office. Verbal or written communications with the subcontractor are noted and filed in the folder maintained on each subcontractor.

We have maintained a complete QA program in compliance with MIL-I-45208A, NAVSEA Standard Items 009-04, 009-09, and 009-12 and company policy for the last eight consecutive years. Following is the list of Navy overhauls which we have worked on with this QA program in force:

<u>Overhaul Period</u>	<u>Name and Hull Number</u>
1977-78	USS LANG (FF-1060)
1978	USS MEYERKORD (FF-1058)
1980-81	USS STEIN (FF-1065)
1982-83	USS HENRY B. WILSON (DDG-7)
1983-84	USNS OBSERVATION ISLAND (T-AGM 23)
1984-85	USNS OBSERVATION ISLAND (T-AGM 23)

### 1.6.1 Approach

Our approach is to provide:

1. complete information about processes, procedures and acceptance criteria to crafts and subcontractors prior to start of productive work
2. a positive system for monitoring work to assure quality is being controlled
3. a positive system of reporting instances where quality and control of quality appear to be inadequate
4. a positive system of response and correction to reported instances of inadequate quality and control systems.

This approach is accomplished through a phased program of inspection beginning at award of contract and ending after the guarantee period.

Positions we will use in our QA Program are QA Director, three QA Foremen, and QA Inspectors. The QA Inspectors will be totally dedicated to these overhauls. The QA Director and Foremen will dedicate 100% of their time to this program. The proposed QA team is the same team that currently worked our recent, highly successful overhauls. The three QA Foremen have extensive experience in:

1. machinery/hull structure
2. piping/ventilation
3. electrical/electronics/ordnance

The QA Foreman is responsible for review of specifications, drawings, and reference documents. He will identify all necessary tests and inspections to be conducted and



Property for 1986 to 1987 30, 1987 KE COUNTY REAL City Taxes	Code Area	Account Number		Assessed Value	4,480			
	1801	9913		Ad Valorem Tax	55.91			
	Property Description (Tax Lot Number)			Net Assessed Value	5,400			
	Map Number			LESS OREGON STATE PAYMENT	55.91			
	Township Range Section 1/4 1/16 Parcel Special Interest			Total Amount	55.91			
	36 26	3100		Discount Allowed	Pay By	Pay One of These Amounts		
	Acres	Class	Sub-Class	Full Number	FULL 3%	1.68	11/15/86	54.23
	40.00	0	800	9913	2/3 - 2%	.75		36.53
	Disc./Int.	Total		1/3 - None				18.64
	Cash	Change		Amount Paid This Statement				
NW MARINE IRON WORKS					* DELINQUENT TAXES OWING			
PO BOX 3109								
PORTLAND OR 97208								

ASH REC'D RECEIPT # DATE PAID TAX INTEREST DISCOUNT FEE TAX BALANCE

Property for 1986 to 1987 30, 1987 KE COUNTY REAL City Taxes	Code Area	Account Number		Assessed Value	Last Year	P 9685 Year	
	1801	9913		T36 R26 S29 NE/4 SW/4	4,480		
	Property Description (Tax Lot Number)			Net Assessed Value	5,400	4,480	
	Map Number			Tax Rate Each \$1000	12.48		
	Township Range Section 1/4 1/16 Parcel Special Interest			Property Taxes	55.91		
	36 26	3100		Current Taxes Levied By	Tax Rate	Tax Amount	
	Acres	Class	Sub-Class	Full Number	SCHOOL DISTRICT 18	6.99	31.32
	40.00	0	800	9913	LAKE CO GEN FUND	2.28	10.21
	Disc./Int.	Total			ED SERV DISTRICT	1.16	5.20
	Cash	Change			LAKE HEALTH DIST	1.84	8.24
					LAKE CO CEMETERY	.21	.94
NW MARINE IRON WORKS					Property Tax Totals		55.91
PO BOX 3109					LESS OREGON STATE PAYMENT		
PORTLAND OR 97208							
Interest Included NOV. 15, 1986					RECEIVED OCT 28 1986		
Tax Year Amount					Total Taxes and Assessments		55.91
R 85 1.11					Discount Allowed*		Pay By
					FULL - 3%		1.68
					2/3 - 2%		.75
					1/3 - None		
					Pay One of These Amounts		54.23
							36.53
							18.64
					*READ PAYMENT INSTRUCTIONS ON REVERSE		

TURN TOP PORTION ONLY WITH YOUR PAYMENT. ENTER AMOUNT PAID IN AREA MARKED \*.  
 YOUR CHECK IS YOUR RECEIPT.

SAVE THIS PORTION FOR YOUR RECORDS

CONSOLIDATED TAX NOTICE AND RECEIPT  
LEMI COUNTY, STATE OF IDAHO 1986  
206 COURTHOUSE DR., SALMON, 83467  
PHONE (208) 756-2816 REAL PROPERTY

1986

MARKET VALUE	TAX CODE AREA	PARCEL NUMBER	BILL NUMBER
57,600	4-00	RP22N21E367200A	8315
57,600L			

N2  
36 22 21

AC 320.000 NORTHWEST MARINE IRON WORKS  
X RAIVIO, R. T.  
CORP. CONTROLLER  
BOX 3109  
PORTLAND, OR 97208

DELINQUENT CERT.

MORE INFO RE TAX PMT ON REVERSE OF THIS TAX BILL.  
ALSO, FEE WILL BE ADDED FOR CHECKS RETURNED BY BANK

**FOR PROPER CREDIT THIS STUB MUST BE RETURNED WITH YOUR PAYMENT**

REAL PROPERTY 1986 RP22N21E367200A  
NORTHWEST MARINE IRON WORKS  
% RAIVIO, R. T. 8315

8315

SPECIAL CODE	TAX	CODE	AREA	TAX	2ND INSTALLMENT
			219.90		219.90
					PEN
					SUB TOT.
					INT.
					TOT.

**PERSONAL CHECKS SUBJECT TO BANK CLEARANCE  
MAKE CHECKS PAYABLE TO**

SHIRLEY R. HOY, LEMHI COUNTY  
TREASURER AND TAX COLLECTOR  
206 COURTHOUSE DRIVE  
SALMON, IDAHO 83467

DELINQUENT IF NOT PAID ON OR BEFORE	JUNE 20, 1987
DATE PAID	CHECK #
PAID BY	CASH

**FOR PROPER CREDIT THIS STUB MUST BE RETURNED WITH YOUR PAYMENT**

REAL PROPERTY 1986 RP22N21E367200A  
NORTHWEST MARINE IRON WORKS  
X RAIWU, R. T. 8315

8315

SPECIAL CODE	TAX	CODE	AREA	TAX	TOTAL TAX
			439.80		439.80
				PEN	
				SUB TOT	
				INT.	
				TOT.	
SPECIAL CODE	TAX	CODE	AREA	TAX	1ST INSTALLMENT
			219.90		219.90
				PEN	
				SUB TOT	
				INT.	
				TOT.	

DELINQUENT IF NOT PAID ON OR BEFORE	DECEMBER 20, 1966
DATE PAID	CHECK #
PAID BY	CASH



# MULTNOMAH COUNTY OREGON

DEPARTMENT OF ENVIRONMENTAL SERVICES  
2115 S.E. MORRISON STREET  
PORTLAND, OREGON 97214  
(503) 248-5000

Engineering Services

COUNTY COMMISSIONERS  
DON CLARK: Chairman  
DAN MOSEE  
ALICE CORBETT  
DENNIS BUCHANAN  
MEL GORDON

February 2, 1979

Pettijohn Engineering Company  
4145 NE Cully Boulevard  
P. O. Box 13387  
Portland, OR 97213

RE: Temporary Sanitary Sewer Connection from Tax Lots 28 and 41,  
Section 23, T1N, R2E

Gentlemen:

The plans as submitted are hereby approved as a TEMPORARY connection subject to the following conditions:

1. A deed restriction must be signed by the property owner for participation in permanent sanitary system along 138th Avenue and trunk system along the slough when constructed.
2. Connection to 8 inch stub out from manhole in Whitaker Way will be revoked should a gravity connection to the stub out by adjacent property be requested. Should this happen, the pressure line would have to be connected to the manhole by another means at pressure line owner's expense.
3. Temporary connection will be revoked at such time as permanent sanitary system is installed. Pressure line owner will be required to make a permanent gravity connection to the new line at his expense.
4. Maintenance of the pressure line and pump station will be at owner's expense.
5. Approval of this sanitary sewer connection does not preclude the requiring of additional improvements under Multnomah County's Street Standards Ordinance as a condition of another development permit from Multnomah County.

Pettijohn Engineering Company  
Page 2  
February 2, 1979

6. Plans have been forwarded to our Right-of-Way Permit Office, and you may contact them at 248-3582 for permit and amount of fee. This letter will become a part of that right-of-way use permit. Deed restriction will be required prior to issuing permit.

Very truly yours,

OLIVER J. DOMREIS  
County Engineer

*Carl R. Soderquist*

CARL R. SODERQUIST  
Planning Engineer

CRS/klw

July 21 1981

TEN THOUSAND & NO/100

Dollars \$ 10,000.00

County of Multnomah, State of Oregon, to-wit: The approximately 15-acre unimproved site being  
Tax Lots #28 & #41 of Section 23, 1N 2 E outlined in red on Exhibit "A" attached. Complete

legal description to be provided by seller at closing. \*(see below)

for the sum of **FOUR HUNDRED FIFTY THOUSAND & NO/100** Dollars (\$ **450,000.00**)

on the following terms, to-wit: The sum, hereinabove received for, TEN THOUSAND & NO/100----- Dollars (\$ 10,000.00)  
in owner's acceptance. (Strike whichever not applicable) FORTY THOUSAND & NO/100----- 40,000.00

Upon acceptance of title and delivery of \_\_\_\_\_ the sum of (Strike whichever not applicable) \_\_\_\_\_ Dollars \$ \_\_\_\_\_

Balance of FOUR HUNDRED THOUSAND & NO/100----- Dollars (\$ 400,000.00)

payable as follows: Cash on closing. Buyer to convert \$10,000 note to cash and deposit additional \$10,000 upon seller's acceptance. Closing to be August 1, 1981.

Seller understands that Bowman Company is an Oregon licensed real estate company acting on

behalfof an undisclosed buyer.

\*Seller to provide evidence at closing that site consists of a total of approximately 11 acres.

A title insurance policy from a reliable company insuring marketable title in seller is to be furnished purchaser in due course or seller's expense; premium due to closing; seller may furnish a title insurance company's title report showing its willingness to issue title insurance, which shall be conclusive evidence as to seller's record title. It is agreed that if seller does not approve this sale within the period allowed broker below in which to secure seller's acceptance, or if the title to the said premises is not insurable or insurable, or cannot be made so with a policy from a reliable company, or if a written statement of defects is delivered to seller, the said contract may be rescinded. But if said sale is consummated, and title to the said premises is insurable or marketable and purchaser neglects or refuses to comply with any of said conditions with this contract, the same being in full force, is furnished and to make payments promptly, as hereinabove set forth, then the earnest money herein received for including said cash and interest money shall be forfeited and disposed of as stated in Section F below and this contract thereupon shall be of no further binding effect.

10. The property is to be conveyed by good and sufficient deed free and clear of all liens and encumbrances except zoning ordinances, building and use restrictions, reservations in Federal grants, ~~XXXXXXXXXX~~ and None. Offer is subject to buyer's acceptance of Prelim. Title Report.

10. Air conditioning, plumbing and heating fixtures and equipment (including stoker and oil tanks but excluding fireplace fixtures and equipment), water heaters, electric light fixtures, light bulbs and fluorescent lamps, bathroom fixtures, venetian blinds, drapery and curtain rods, window and door screens, storm doors and windows, attached fire alarm, attached television and

1. Prop, all shrubs and trees and all fixtures except	None
-------------------------------------------------------	------

are to be left upon the premises as part of the property purchased. The following personal property is also included as a part of the property for said purchase price:

None

10. Seller and purchaser agree to pro rate the taxes which are due and payable for the current tax year. Rents, interest, premiums for existing insurance and other matters shall be pro rated.

calendar year basis and payments are to be made as of the date of the consummation of said sale or delivery of possession, whichever first occurs. The payments to be made shall be in arrears by the number of months out of purchase money at date of closing. **SELLER AND PURCHASER AGREE THAT SUBJECT SALE WILL BE CLOSED IN ARREARS, THE COST OF WHICH**

3. Possession of said premises is to be delivered to purchaser on or before \_\_\_\_\_, 19\_\_\_\_, or as soon thereafter as existing laws and regulations will permit removal of tenants of any kind. Time is of the essence of this contract. This contract is binding upon the heirs, executors, administrators, successors and assigns of buyer and seller. However, the seller's rights hereunder shall remain unimpaired until the date of closing, in any suit or action brought on the contract, the seller shall retain the right to occupy the premises.

506 1/2 1st Ave. Bldg. 506 SW 6th Portland OR POLMAN COMPANY

228-3303 97204 John L. Bowman

150,000.00      AGREEMENT TO PURCHASE      July 21      81

I hereby agree to purchase and pay the price of \$450,000.00 to purchase the property herein described in its present condition, as set forth above or a grant to said agent  
I intend to occupy the premises as my principal residence.

500 Wilcox Bldg., 506 SW 6th, Portland, OR **BOWMAN COMPANY and/or Assigns**

Address 228-3303 97204 John I. Dorman, President Purchaser

228-5509 Phone \_\_\_\_\_ John D. Downham, President  
BUYER'S AND SELLER'S AGREEMENT RE DEPOSIT OF EARNEST MONEY July 21 1981

\* Earnest Money deposit in this transaction of \$ 50,000.00. In the form stated above shall be deposited in the Client's Trust Account of the Broker indicated above until this offer is accepted.

421 S. W. Stark, Portland, OR 97204

to be held pending closing of this transaction pursuant to the attached escrow instructions.

LOREAN COMPANY

SAM WALS BORN

John L. Bowman	Purchaser	Seller
	Purchaser	Seller

3. AGREEMENT TO SELL July 19 81

2153 N. E. Division

Gresham, Oregon 97030 phone 661-5140

Buyer acknowledges receipt of the foregoing instrument bearing his signature and that of the seller, and hereby accepts and agrees to the foregoing terms, conditions and covenants, and hereby acknowledges acceptance.

Purchaser	(return receipt requested), on	12
	Return receipt card received	
	and attached to buyer's copy	12

SELLER'S CLOSING INSTRUCTIONS AND AGREEMENT WITH BROKER RE FORFEITED EARNEST MONEY

the seller whose signature appears below, agree to pay forthwith to said broker a commission amounting to \$ \_\_\_\_\_ for services rendered in this transaction. In the event the buyer's deposit is forfeited pursuant to subparagraph 2, above, said forfeited deposit shall be disposed of between broker and seller in the following manner: \_\_\_\_\_

50-50 between broker & seller

I hereby acknowledge receipt of a copy of this contract bearing signatures of seller and buyer named above.

**JOHN COMPANY** Broker **Seller**

NW/MAR100000

NWMAR133922



Account Number  
R-94223-0280

Assessed Value

Ad Valorem Tax

Total Special Assessments

Total Tax and Assessments

LESS PAYMENT BY STATE OF OREGON

Total Amount AFTER STATE PAYMENT

330,500  
8,858.50  
276.00  
9,134.50  
0.00  
9,134.50

REAL  
Property Taxes

1942230280

0001285916

0001578222

X 0001867482 11

DO NOT  
WRITE IN  
THIS AREA

COPIES NOT AVAILABLE FOR:

R 94223-0410

R 94224-1020

861

RETURNED CHECK WILL INCUR A SERVICE CHARGE

Enter Amount Paid This Statement

Return this stub with your payment. Use reverse side with return envelope.

SON es For Fiscal 1. 1986 to J. 1987 ULTNOMAH COUNTY  REAL Property Taxes	Code Area	Account Number	TAX COMPARISON	Assessed Value	Last Year	This Year
	006	R-94223-0280		LAND VALUE	349,000	338,500
				BUILDING VALUE		
				TOTAL VALUE	349,000	338,500
				NET ASSESS VAL	349,000	338,500
				TAX RATE/\$1000	24.96	26.17
				PROPERTY TAXES	8,711.04	8,858.50
				Current Taxes Levied By	Rate %	Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

ATLAS IRON WORKS INC  
4600 NE 138TH  
PORTLAND, OREGON 97230

LEGAL DESCRIPTION  
SECTION 23 1 N 2 E LOT BLOCK  
TL 28 10.88 ACRES  
SPLIT PLUS 94224-1020

**POSTED**

PORT OF PORTLAND	1.6	141.70
PORT BONDS	.0	0.00
EDUCATION SERVICE DIST	5.0	442.90
MT HOOD COMMUNITY COLL	6.6	584.60
PARKROSE SCHOOL DIST	45.4	4,021.70
CITY OF PORTLAND	27.4	2,427.20
METRO SERVICE DIST (ZOO)	.6	53.10
MULTNOMAH COUNTY	13.4	1,187.00

Property Tax Totals 8,858.50

LESS PAYMENT BY STATE OF OREGON 0.00

PLUS SPECIAL ASSESSMENTS:  
MULT COUNTY #1 DRAIN. 276.00

Foreclosure proceedings will be  
started after July 15 on real  
property accounts with an un-  
paid balance for any tax year  
marked with an asterisk (\*).

Taxpayer's Name  
\*\*\*\*\*  
\* SUBJECT TO \*  
\* FORECLOSURE \*  
\* MAY 16, 1988 \*  
\*\*\*\*\*

PLEASE  
MAKE  
PAYMENT  
TO:  
Tax Collector, Multnomah County  
P.O. Box 2716  
Portland, Oregon 97272-0029  
(For tax information, call (503) 248-3326)

\* READ PAYMENT INSTRUCTIONS ON REVERSE

Total Taxes and Assessments 9,134.50

Discount Allowed *	Pay By	Pay One of These Amounts
FULL - 3% 274.04	NOV. 15	18,674.80
2/3 - 2% 121.79	NOV. 15	15,782.20
1/3 - None	NOV. 15	12,859.10

**RECEIVED**  
OCT 26 1986  
ATLAS IRON WORKS

YEAR	TAXES	INTEREST	TOTAL
84-85	15.63	2.81	18.44
85-86	8,987.04	808.83	9,795.87

TOTAL NET TAXES PAYABLE NOV 15, 1986 18,674.80

<b>OREGON</b> Property Taxes For Fiscal Year July 1, 1986 to June 30, 1987 <b>MULTNOMAH</b> <b>COUNTY</b>  <b>REAL</b> Property Taxes	Code Area <b>001</b>	Account Number <b>R-41490-1190</b>	Assigned Value <b>47,300</b>
	Property Description (Tax Lot Number)		Ad Valorem Tax <b>1,306.43</b>
	<b>PROPERTY ADDRESS</b> <b>2407 NW 29TH AV</b> <b>PORTLAND 97210</b>		Total Special Assess <b>0.00</b>
			Total Tax and Assessments <b>1,306.43</b>
			LESS PAYMENT BY STATE OF OREGON <b>0.00</b>
			Total Amount AFTER STATE PAYMENT <b>1,306.43</b>

X 1414901190 X 0000223269 X 0000265075 X 0000306445 12 X DO NOT WRITE IN THIS AREA

861  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

<b>OREGON</b> Property Taxes For Fiscal Year July 1, 1986 to June 30, 1987 <b>MULTNOMAH</b> <b>COUNTY</b>  <b>REAL</b> Property Taxes	Code Area <b>001</b>	Account Number <b>R-41490-1190</b>	TAX	Assigned Value	Last Year	This Year
	Property Description (Tax Lot Number)					
	<b>PROPERTY ADDRESS</b> <b>2407 NW 29TH AV</b> <b>PORTLAND 97210</b>					
			LAND VALUE	48,300	46,800	
			BUILDING VALUE	500	500	
			TOTAL VALUE	48,800	47,300	
			NET ASSESS VAL	48,800	47,300	
			TAX RATE/\$1000	25.68	27.62	
			PROPERTY TAXES	1,253.19	1,306.43	
			Current Taxes Levied By	Tax Rate	Tax Amount	

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

NORTHWEST MARINE IRON WORKS  
% WAHL, DALE  
P O BOX 3109  
PORTLAND, OREGON 97208

PORT OF PORTLAND	1.6	20.90
CITY OF PORTLAND	26.0	339.67
EDUCATION SERVICE DIST	4.7	61.40
PORTLAND SCHOOL DIST	51.4	671.51
PORTLAND COMMUNITY COLL	3.1	40.50
METRO SERVICE DIST (ZOO)	.6	7.84
PORT BONDS	.0	0.00
MULTNOMAH COUNTY	12.6	164.61

LEGAL DESCRIPTION  
INDUSTRIAL CENTER  
INC STRIP 12' WIDE W OF &  
ADJ

LOT BLOCK

XXXXXXXXXXXXX SEE BELOW RIGHT		Property Tax Total	1,306.43
		LESS PAYMENT BY STATE OF OREGON	0.00
Delinquent Taxes	*****		
Foreclosure proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*)	* * SUBJECT TO * FORECLOSURE * MAY 16, 1988 *		

PLEASE MAKE PAYMENT TO:	Tax Collector, Multnomah County P.O. Box 2716 Portland, Oregon 97272-0029 (For tax information, call (503) 246-3326)	Discount Allowed	Pay By	Pay One of These Amounts
* READ PAYMENT INSTRUCTIONS ON REVERSE		FULL - 3% 39.19	NOV. 15	3,064.4
		2/3 - 2% 17.42	NOV. 15	2,650.7
		1/3 - None	NOV. 15	2,232.6

YEAR	TAXES	INTEREST	TOTAL
84-85	365.45	65.78	431.2
85-86	1,253.19	112.79	1,365.9

TOTAL NET TAXES PAYABLE NOV 15, 1986 3,064.4

ADD BACK DISCOUNT 39.19

3103.6

STORAGE LOT

OREGON Property Taxes For Fiscal Year July 1 1986 to June 30, 1987 MULTNOMAH COUNTY  REAL Property Taxes	Code Area 001	Account Number R-41490-1210	Assessed Value 314,990
	Property Description (Tax Lot Number)		Ad Valorem Tax 8,700.03
	PROPERTY ADDRESS 2429-2439 NW 29TH AV PORTLAND 97210		Total Special Assessments 0.00
			Total Tax and Assessments 8,700.03
			LESS PAYMENT BY STATE OF OREGON 0.00
			Total Amount AFTER STATE PAYMENT 8,700.03

X 1414901210 X 0001541952 X 0001820353 X 0002095654 12 X DO NOT WRITE IN THIS AREA

861

RETURNED CHECK WILL INCUR A SERVICE CHARGE

OREGON Property Taxes For Fiscal Year July 1 1986 to June 30, 1987 MULTNOMAH COUNTY  REAL Property Taxes	Code Area 001	Account Number R-41490-1210	Assessed Value Last Year: 314,990 This Year: 314,990
	Property Description (Tax Lot Number)		LAND VALUE 168,000 BUILDING VALUE 160,880 TOTAL VALUE 328,880
	PROPERTY ADDRESS 2429-2439 NW 29TH AV PORTLAND 97210		NET ASSESS VAL 328,880 TAX RATE/\$1000 25.68 PROPERTY TAXES 8,445.64
			Current Taxes Levied By Tax Rate Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

NORTHWEST MARINE IRON WORKS  
PO BOX 3109  
PORTLAND, OREGON 97208

LEGAL DESCRIPTION  
INDUSTRIAL CENTER LOT BLOCK  
INC STRIP 12' WIDE W OF & 5-8 4  
ADJ

PORT OF PORTLAND	1.6	139.20
CITY OF PORTLAND	26.0	2,262.01
EDUCATION SERVICE DIST	4.7	408.90
PORTLAND SCHOOL DIST	51.4	4,471.82
PORTLAND COMMUNITY COLL	3.1	269.70
METRO SERVICE DIST (ZOO)	.6	52.20
PORT BONDS	.0	0.00
MULTNOMAH COUNTY	12.6	1,096.20

XXXXXXXXXXXXXXXXX SEE BELOW RIGHT

Delinquent Taxes  
Foreclosure proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (\*).  
\*\*\*\*\*  
\* SUBJECT TO \*  
\* FORECLOSURE \*  
\* MAY 16, 1988 \*  
\*\*\*\*\*

PROPERTY TAX TOTALS  
8,700.03  
LESS PAYMENT BY STATE OF OREGON 0.00

PLEASE MAKE PAYMENT TO:  
Tax Collector, Multnomah County  
P.O. Box 2716  
Portland, Oregon 97272-0029  
(For tax information, call (503) 248-3326)

Discount Allowed *	Pay By	Pay One of These Amounts
FULL - 3% 261.00	NOV. 15	20,958.54
2/3 - 2% 116.00	NOV. 15	18,203.54
1/3 - None	NOV. 15	15,419.54

\* READ PAYMENT INSTRUCTIONS ON REVERSE

YEAR	TAXES	INTEREST	TOTAL
84-85	2,808.27	505.49	3,313.76
85-86	8,445.64	766.11	9,205.75

10058409 (Rev. 2-86)

TOTAL NET TAXES PAYABLE NOV 15, 1986 20,958.54

ADD BASIC DISCOUNT 261.00

LAND & BLDGS (12,13,14, 17th & 18th STS) TOTAL 21,219.54

NWMAR133025

OREGON Property Taxes For Fiscal Year July 1, 1986 to June 30, 1987 MULTNOMAH COUNTY  REAL Property Taxes	Code Area	Account Number	Assessed Value	447,180
	001	R-41490-1290	Ad Valorem Tax	12,351.12
	Property Description (Tax Lot Number)		Total Special Assessments	0.00
	PROPERTY ADDRESS 2537 NW 29TH AV PORTLAND 97210		Total Tax and Assessments	12,351.12
			LESS PAYMENT BY STATE OF OREGON	0.00
			Total Amount AFTER STATE PAYMENT	12,351.12

X 1414901290 X 0002207404 X 0002602640 X 0002993759 17 X DO NOT WRITE IN THIS AREA

861  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

Return this stub with your payment. Use reverse side with return envelope			Enter Amount Paid This Statement			
OREGON Property Taxes For Fiscal Year July 1, 1986 to June 30, 1987 MULTNOMAH COUNTY  REAL Property Taxes	Code Area	Account Number	TAX COMPARISON Current Taxes Levied By	Assessed Value	Last Year	This Year
	001	R-41490-1290		LAND VALUE	82,950	80,460
	Property Description (Tax Lot Number)			BUILDING VALUE	382,000	366,720
	PROPERTY ADDRESS 2537 NW 29TH AV PORTLAND 97210			TOTAL VALUE	464,950	447,180
				NET ASSESS VAL	464,950	447,180
				TAX RATE/\$1000	25.68	27.62
				PROPERTY TAXES	11,939.92	12,351.12
				Tax Rate	%	Tax Amount
YOUR CANCELLED CHECK IS YOUR RECEIPT RETURNED CHECK WILL INCUR A SERVICE CHARGE			PORT OF PORTLAND 1.6 197.62 CITY OF PORTLAND 26.0 3,211.25 EDUCATION SERVICE DIST 4.7 580.50 PORTLAND SCHOOL DIST 51.4 6,348.48 PORTLAND COMMUNITY COLL 3.1 382.88 METRO SERVICE DIST (ZOO) .6 74.11 PORT BONDS .0 0.00 MULTNOMAH COUNTY 12.6 1,556.21			
LEGAL DESCRIPTION INDUSTRIAL CENTER TL 8 OF			NORTHWEST MARINE IRON WORKS 2516 NW 29TH AVE PORTLAND, OREGON 97210			
DELINQUENT TAX Foreclosure proceedings will be started after July 15 on property accounts with an unpaid balance for any tax year marked with an asterisk (*).			PROPERTY TAX TOTALS 12,351.12 LESS PAYMENT BY STATE OF OREGON 0.00 Total Taxes and Assessments 12,351.12			
PLEASE MAKE PAYMENT TO: Tax Collector, Multnomah County P.O. Box 2716 Portland, Oregon 97272-0029 (For tax information, call (503) 248-3326)			Discount Allowed * Pay By One of These Amount FULL - 3% 370.53 NOV. 15 29,937.5 2/3 - 2% 164.68 NOV. 15 26,026.4 1/3 - None NOV. 15 22,074.0			
* READ PAYMENT INSTRUCTIONS ON REVERSE			YEAR TAXES INTEREST TOTAL 84-85 4,188.54 753.94 4,942.1 85-86 11,939.92 1,074.60 13,014.5			

1506-1926 (Rev. 2-86)

TOTAL NET TAXES PAYABLE NOV 15, 1986 29,937.5

NWMAR133926

# EXCLUSIVE AUTHORIZATION TO SELL

The undersigned Owner hereby GRANTS the undersigned Broker the EXCLUSIVE AUTHORIZATION and RIGHT, for a period commencing this date and terminating at midnight of September 30 ~~March 31~~, 1987, to sell the real property situated in the City of \_\_\_\_\_ County of Multnomah State of Oregon, described as: Tax Lots 41, 22, and 102, Sections 23 and 24, T1S R2E, Willamette Meridian consisting of: approximately 15.06 acres of industrial land located on the east side of NE 138th A at the price of: \$70,000 per acre in excess of \$1,000,000 DOLLARS on the following terms: Cash or such other terms as Seller may accept

or at such price and terms as shall be acceptable to Owner, and to accept a deposit thereon.  
In the event the property is sold subject to FHA or VA financing, Owner agrees to pay up to N/A discount points necessary to obtain such financing.  
Owner agrees to transfer the following personal property, included in the above price, by a Warranty Bill of Sale in favor of purchaser at close of escrow: None

Owner agrees to pay Broker as compensation for services rendered a fee of 6% of the first \$500,000 of selling price, plus 5% of second \$500,000 of selling price, plus 3% of selling price per cent of the selling price, if:  
1. Broker procures a purchaser during the term hereof on the terms specified herein or on any other terms acceptable to Owner.  
2. The property is sold, exchanged, or otherwise transferred during the term hereof, by Owner, or through any other source.  
3. The property is withdrawn from sale, or if this authorization is revoked during the term hereof, or if the Owner otherwise prevents the performance hereunder by the Broker.  
4. A sale, exchange, or other transfer of said property is made within three (3) months after the termination of this agreement to persons with whom Broker shall have negotiated during the term hereof and whose names the Broker shall have submitted in writing to Owner within ten days after termination of this authorization.  
If suit is brought to collect the compensation or if Broker successfully defends any action brought against Broker by Owner relating to this authorization or under any sales agreement relating to said property, Owner agrees to pay all costs incurred by Broker in connection with such action, including a reasonable attorney's fee.  
Owner agrees to make available to Broker and prospective purchasers all data, records and documents pertaining to the property, to allow Broker, or any other broker with whom Broker chooses to cooperate, to show the property at reasonable times and upon reasonable notice and to commit no act which might tend to obstruct the Broker's performance hereunder. Broker may furnish such information to third parties, and after close of escrow of the property, may disclose the terms of sale to interested parties.  
In the event of a sale, Owner will promptly, upon Broker's request, deposit in escrow all instruments necessary to complete the sale.  
Owner warrants the accuracy of the information furnished herein with respect to the above described property and agrees to hold the Broker harmless from any liabilities or damages arising out of incorrect or undisclosed information. Owner agrees to notify Broker within seven days of any changes in rentals and/or expenses of the property. The undersigned Owner warrants further that he is the owner of record of the property or has the authority to execute this agreement.

Receipt of a copy of this authorization is hereby acknowledged.

In consideration of the execution hereof, the undersigned Broker agrees to use diligence in effecting a sale of said property.

Dated: October 24, 1986 Atlas Iron Works, Inc., an Oregon Corp. Seller:  
By: Mark H. Jones CHAIRMAN Seller:  
Chester Real Estate Co., Broker  
c/o Northwest Marine Iron Works  
5319 SW Westgate Drive, Address 297-3124 Phone 5555 N Channel Address 225-7557 Phone  
Portland, OR 97221  
By: Chester Date property was purchased:

The following changes and/or additions are herewith incorporated in this authorization:

This authorization is herewith extended until midnight of \_\_\_\_\_, 19\_\_\_\_. All other terms shall remain the same.

Seller  
Broker

Address: N.E. 138th Ave. (east side) Price  
Corner: Between NE Sandy Blvd and NE Marine Drive  
District: Lot Size/Acreage: 15.06 acres + Zoning: General Manufacturing  
Taxes \$11,828.77 Allocated to Land: 100% Allocated to Improvements: 0 Bonds \$  
Existing Encumbrances:  
1st Loan \$ \_\_\_\_\_ Mo. @ \_\_\_\_\_ % Including Impounds ☐ Lender \_\_\_\_\_ Loan No. \_\_\_\_\_  
2nd Loan \$ \_\_\_\_\_ Mo. @ \_\_\_\_\_ % Due on Sale ☐ Due Date \_\_\_\_\_  
3rd Loan \$ \_\_\_\_\_ Mo. @ \_\_\_\_\_ % Due on Sale ☐ Due Date \_\_\_\_\_  
Reason for Selling: Excess

Exchange for:

Remarks:

PROPERTY INFORMATION ON REVERSE SIDE

FORM 109 (6-28-78)

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PROFESSIONAL PUBLISHING CORPORATION

NWMAR133927



## NORTHWEST MARINE IRON WORKS

MAILING  
ADDRESS:

P.O. BOX 3109  
PORTLAND, OR 97208

5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217

PHONE: (503) 285-7557

TWX: 910-464-6107 NORMARINE PTL

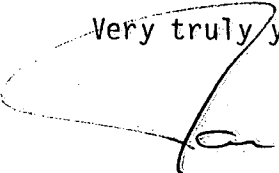
November 5, 1986

Mr. Charles Landskroner  
6426 S.W. Beaverton Hillsdale Hwy.  
Portland, Oregon 97221

Dear Charles,

Here is a copy of the appraisal we discussed. I look forward to hearing from you once you have reviewed it.

Very truly yours,



Ronald L. Walquist  
Vice President

RLW/np

Enclosure

NWMAR133928

PHONE MEMO	TO	RHW		DATE	1030	TIME	510	AM	PM
	FROM	M	TO 7	AREA CODE	NUMBER				
	OF	Chas. Landskroner			EXTENSION				
	MESSAGE	292-2624							
		6426 SW BERNARDSON-HILLMAN HWY.							
	PDX 0297221			SIGNED					
PHONED	<input type="checkbox"/>	CALL BACK	<input checked="" type="checkbox"/>	RETURNED CALL	<input type="checkbox"/>	WANTS TO SEE YOU	<input type="checkbox"/>	WILL CALL AGAIN	<input type="checkbox"/>
	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

IGNER FORM NO. 50-176

Dear Charles:

Here is a copy of the appraisal we discussed. I look forward to hearing from you once you have reviewed it.

Paul L. Volgin  
Y.P.



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

January 16, 1987

Marsh & McLennan, Inc.  
Standard Insurance Center  
900 SW 5th, Suite 1100  
Portland, Oregon 97204

Dear Dan,

Northwest Marine projects its 1987 receipts to be \$45,000,000. Of this amount, \$33,000,000 represents Government work and \$12,000,000 Commercial. I believe this is the same as was projected last year.

Let me know if I can be of any further help.

Very truly yours,

Ron Walquist  
Vice President

RW/np

cc: Larry McGillivray

NWMAR133930





# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

December 30, 1986

Northwest Marine Iron Works  
5555 N. Channel Ave., Bldg. 2  
Portland, OR 97217

## MITSUBISHI HEAVY INDUSTRIES VESSEL FABRICATION OPPORTUNITY

As you know, the Oregon Ports Group will soon go to Japan and Korea on a marketing trip. As a result of the preliminary work for this trip I had a conversation with a representative from MHI. They are interested in exporting their work vessel and dredge technology to an American fabrication company. MHI is very interested in Portland as a fabrication site for this work.

The attached letter will give you a better understanding of MHI's intentions. I will be visiting them on January 20, 1987. I think that a meeting of the shipyard contractors to discuss the possibilities would be best. I suggest January, 7 at 8:30 a.m. in the PSRY conference room. I have brochures from MHI that give some insight to this opportunity.

If you have a problem with the date for this meeting please call me at 503/231-5571.



Dennis C. Frakes, Special Projects Manager  
Portland Ship Repair Yard

cmr/A122307

cc: Dave Neset  
Dave Cheramy  
Chuck Requa  
Guy Alvis



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133931



**MITSUBISHI HEAVY INDUSTRIES, LTD.**

CENTRAL POST OFFICE  
BOX NO. 10, TOKYO  
CABLE ADDRESS:  
MISHIJU TOKYO

5-1, MARUNOUCHI 2 CHOME, CHIYODA-KU  
TOKYO, JAPAN

TELEPHONES:  
TOKYO (212) 3111  
TELEX: J22282  
J22443

Our Ref. SOE-B-668  
December 18, 1986

Mr. Dennis C. Frakes  
Special Projects Manager  
Portland Ship Repair Yard  
Chairman, Oregon Ports Group  
P.O.Box. 598  
St. Helens, Oregon 97051  
U. S. A.

Dear Mr. Frakes,

Re: Visit of The Oregon Ports Group

We thank you very much for your letter of 11th December, 1986 addressed to our Houston representative, Mr. T. Shiozawa.

As previously informed through our Mr. Shiozawa, at this moment we have no intention to industrialize any projects in U.S. market either by forming a joint venture with U.S. companies or by ourselves. What we would like to investigate is the possibility of marketing our products, especially our dredgers and/or work vessels in U.S. territories under technical collaboration with U.S. fabricator(s).

As shown in the attached booklet, in these 20 years we have delivered more than 50 dredgers and numbers of work vessels to the customers both domestic and world-wide. So we believe that our accumulated technical know-how, engineering capability as well as the availability of various as built/prototype design of dredgers and work vessels may be of some interest to U.S. shipbuilders and fabricators who wish to expand their business in these field. Furthermore, we assume that we will be able to assist by supplying some of the key-components, such as dredging equipment, pumps etc. as a package through our channel.

( 2 )


Under such circumstances, we are afraid that our company will not be an appropriate party to be contacted by the representatives of the Oregon Ports Group other than your goodself of Portland Ship Repair Yard in consideration of their purpose of visit.

Therefore, we would like to decline politely to receive the visit by the Oregon Ports Group members expected on January 19, 1987, but to propose with pleasure to have a meeting with you on January 20, 1987, at 2:30 PM at our office here in Tokyo.

Please kindly understand our situation as above mentioned and give our best regards to other O.P.G. members.

We are looking forward to seeing you in January to exchange views for possible technical collaboration of dredgers and work vessels.

Yours very truly,  
MITSUBISHI HEAVY INDUSTRIES, LTD.

  
Y. Ogata, Manager  
Ocean Development and Marine  
Structures Department

cc: MHI/Houston

NWMAR133933



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

January 16, 1987

Marsh & McLennan, Inc.  
Standard Insurance Center  
900 SW 5th, Suite 1100  
Portland, Oregon 97204

Dear Dan,

Northwest Marine projects its 1987 receipts to be \$45,000,000. Of this amount, \$33,000,000 represents Government work and \$12,000,000 Commercial. I believe this is the same as was projected last year.

Let me know if I can be of any further help.

Very truly yours,

Ron Walquist  
Vice President

RW/np

cc: Larry McGillivray

Marsh & McLennan, Incorporated  
1100 Standard Insurance Center  
Portland, Oregon 97204  
503 226-9500

*Copy  
L. S. M.*

December 24, 1986

Mr. Ron Walquist  
NORTHWEST MARINE IRON WORKS  
P.O. Box 3109  
Portland, Oregon 97208

OREGON WORKERS' COMPENSATION

Dear Ron:

The current relationship with SAIF began back in 1975, when our office placed your account there to principally take advantage of SAIF's paid-loss retro "cash-flow" account.

Since we had no agency agreement with SAIF, they considered it a direct placement, and therefore paid no commissions. This has continued through the present term.

We therefore have annually negotiated a fee, stated as a percentage of standard premium as compensation for our annual marketing and ongoing review of plan operations. Industry average commissions for an equivalent account are 2.5% of standard premium. Our current fee is 1%.

The last fee billing processed was \$17,372.23 representing 1% of declared premiums for the April 1 - June 30, 1986 period. As these involve pre-filing charges, we have offset them accordingly.

We wish to discuss and reach new agreement on current coverage strategy, our role and commensurate fee levels for the ongoing term. Please call upon review of this letter to discuss further.

Yours very truly,



Daniel J. Sloan, CPCU  
Vice President

DJS:sgw

December 15, 1986

## MEMORANDUM

**To:** All Personnel

**From:** Bill Zavín, President

**Subject:** Policies and Procedures for Management of General Inventory, Small Tools, Consumable Supplies, Safety Supplies and Maintenance Supplies and Services

**Attachment:** Company Policy and Procedures Directive

---

- 1) The attached Company Policy and Procedure Directive is issued this date for immediate implementation by responsible Department Heads.



William H. Zavín II  
President



Ron Walquist  
Vice President

cc: Company Directive File

**NORTHWEST MARINE IRON WORKS  
COMPANY POLICY AND PROCEDURES DIRECTIVE  
FOR PROCUREMENT AND ADMINISTRATION OF GENERAL INVENTORY,  
SMALL TOOLS, CONSUMABLE SUPPLIES, SAFETY SUPPLIES AND  
MAINTENANCE SUPPLIES AND SERVICES**

**A) POLICY:**

The following are policies which govern the procurement and administration of general inventory, small tools, consumable supplies, safety supplies and maintenance supplies and services.

**1) PROCUREMENT:**

Above material and supplies will be procured **only** by the **authorized buyers** from the Materials Department based on Requests for Purchase (RFP) which have been previously approved by signature of authorized department head as set forth in the attached Procurement and Administration Matrix.

**2) GENERAL INVENTORY:**

General Inventory will be purchased, stored and issued directly to the job under the supervision and management of the Materials Manager. The level of general inventory items will be reduced and maintained at a level to support an effort of 600 men per day. Inventory minimum and maximum levels will be set by the Materials Manager with concurrence of the Production Manager.

**3) SMALL TOOLS, BIN STOCK, CRAFT CONSUMABLE SUPPLIES AND SAFETY SUPPLIES:**

These items will be purchased by authorized buyers with the signature approval of the Production Manager. Supply levels will be maintained sufficient to support 600 men per day. Each Craft Superintendent is responsible for budgeting for, and for custody, control and issue of small tools, craft consumables, and safety supplies under the direction of the Production Manager.

**4) MAINTENANCE SUPPLIES AND SERVICES:**

All maintenance supplies and services will be purchased on an "as needed" basis by authorized buyers with the signature approval of the Maintenance Manager under the direction of the Production Manager to the 1000 account. The Maintenance Manager is directly responsible for control and use of all maintenance supplies and services.

5) **SPECIAL INVENTORY:**

Special inventory materials described below will be ordered by the Materials Manager to Account No. 143 and will be managed as

a) **Weld rod and wire and industrial gases:**

Weld rod and wire and industrial gases will be issued to the job. All weld rod and wire will be purchased by the Materials Manager, stored in the warehouse and issued as part of inventory to the job. Industrial gases will be purchased by the Materials Manager and will be stored and issued by the Craft Superintendent of the Boiler Shop.

b) **Grit/sand for sandblast:**

Grit/sand for shop job usage will be purchased against Account No. 143 and will be stored and used by the Craft Superintendent of the Laborers/Painters/Blasters. Shop sand will be expensed on issue to Account No. 731 and will be charged to shop job customers on a unit cost per manhour basis to customers. All other grit/sand for ship repair jobs will be purchased directly against Account No. 143 and will be expensed to the job on issue by the Craft Superintendent of the Laborers/Painters/Blasters.

c) **Insulation Materials:**

General insulation materials are those materials such as tape, glue and cloth which are used as standard materials for shipboard insulation work. General insulation materials will be ordered and warehoused by the Materials Manager as general inventory under Account No. 143. Job related unique insulation materials will be ordered by the Carpenter Craft Superintendent to the job and will be warehoused in the Carpenter Shop.,

6. **SPECIFIC RESPONSIBILITIES, ACCOUNT NUMBERS, AND PROCEDURES:**

Specific responsibilities, account numbers and procedures for purchase, management and control of general inventory, small tools, consumable supplies, safety supplies and maintenance supplies are set forth in the Procurement and Administration Matrix attached hereto. The Matrix will be implemented as policy.



**7. ACCOUNTABILITY:**

The following are established as elements for accountability:

- a) No material in these categories will be purchased without signature approval of the responsible designated department head.
- b) Monthly tracking records will be maintained by the Materials Manager on a by-craft basis for tools, craft consumables, and safety supplies.
- c) Each craft will maintain issue accountability systems for small tools.
- d) Monthly budgets will be developed by the Production Manager for small tools, craft consumables, safety supplies, maintenance supplies and services and special consumables.
- e) The Materials Manager is responsible for ensuring that materials are purchased only with prior signature approval and to the proper account number.

# MATRIX

## FOR GENERAL INVENTORY, SMALL TOOLS, CONSUMABLES AND MAINTENANCE SUPPLIES AND SERVICES

CATEGORY	STORAGE, CUSTODY, ISSUE	STOCKING LEVEL	PURCHASE APPROVAL AUTHORITY	P.O. TO	ISSUE TO JOB	EXPENSED	SPECIAL INSTRUCTIONS/ COMMENTS
I. GENERAL INVENTORY	Materials Manager	Level to Support 600 Men Per Day	Materials Manager	142	Yes	To Job When Issued	Maintain minimum levels for one job
II. SMALL TOOLS	Individual Crafts	As set by the Production Manager	Production Manager	711	No	When Purchased	Lost tool chits to be data entered and summarized by DP
III. CRAFT CONSUMABLES	Individual Crafts	As set by the Craft Superintendent	Production Manager	730	No	When Purchased	
IV. CRAFT BIN STOCK	Individual Crafts	As set by the Craft Superintendent	Production Manager	717	No	When Purchased	
V. SAFETY SUPPLIES	Individual Crafts	As set by the Production Manager	Production Manager	723	No	When Purchased	
VI. MAINTENANCE SUPPLIES	Plant Manager	As set by the Plant Manager	Production Manager	Job 1000 Line Nos. 11, 12, 13, 14, 17, 21, 24, 25, 26, 27, 29, 30, 32	No	When Purchased	
VII. SPECIAL INVENTORY	Individual Crafts as Directed	As set by the Production Manager and Materials Manager	Materials Manager			Issued to the Job	
	1) Shop Sand/ Craft 09			143	Yes		(1) Sand for the Job Shop be purchased against Account 143 and will be expensed to Account 731 when issued as production overhead
	2) Weld Rod & Wire Warehouse			143	Yes		
	3) Gases/Craft II			143	Yes		
	4) Ship Sand/ Craft 10			143	Yes		
	5) General Insulation Warehouse	As set by the Materials Manager	Materials Manager	143	Yes		(1) Job related unique insulation materials will be ordered to the job and will be stored by Craft 06

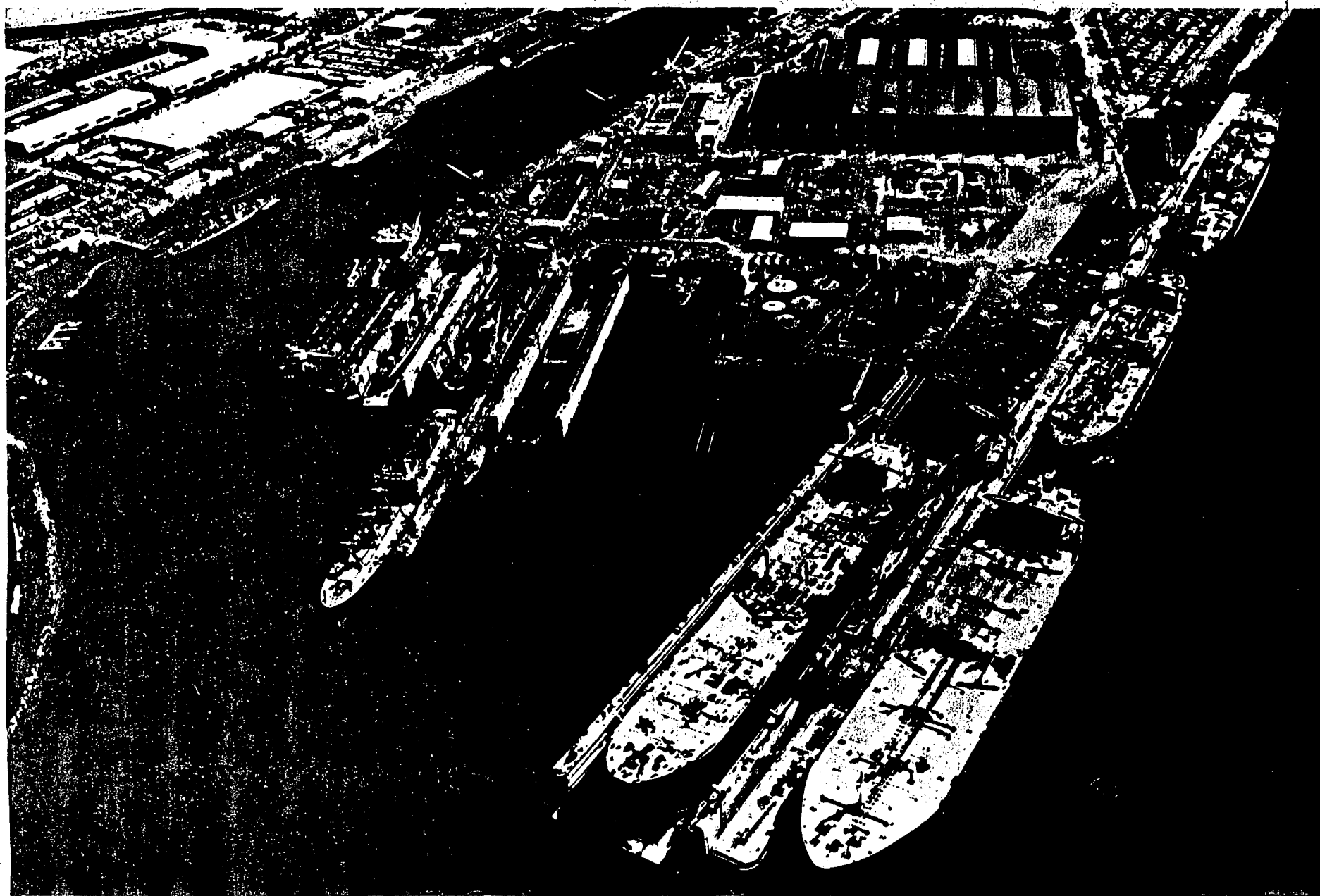
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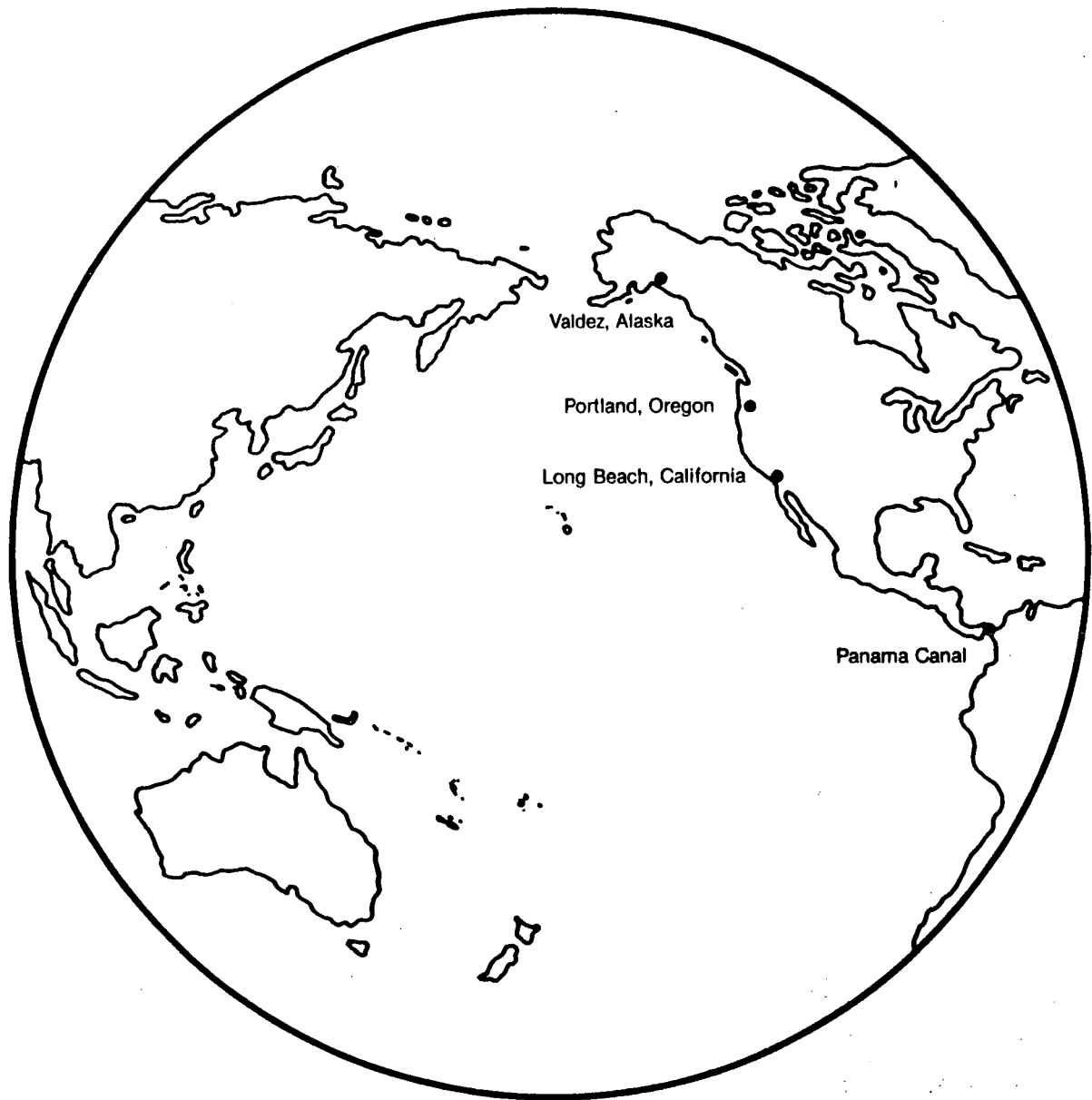
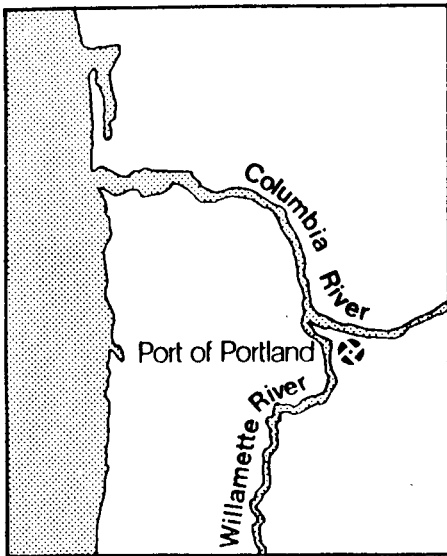
# PORTLAND SHIP REPAIR YARD

FACILITY INFORMATION MANUAL



Port of Portland PORTLAND, OREGON USA





## Access

Astoria Bridge  
Longview Bridge  
St. Johns Bridge  
B.N. Bridge  
(Portland Harbor)  
Channel Depth 40'

## Vertical Clearance

205' M.L.W.  
216' M.L.W.  
210' M.L.W.  
Unlimited  
(swing span)

## Horizontal Clearance

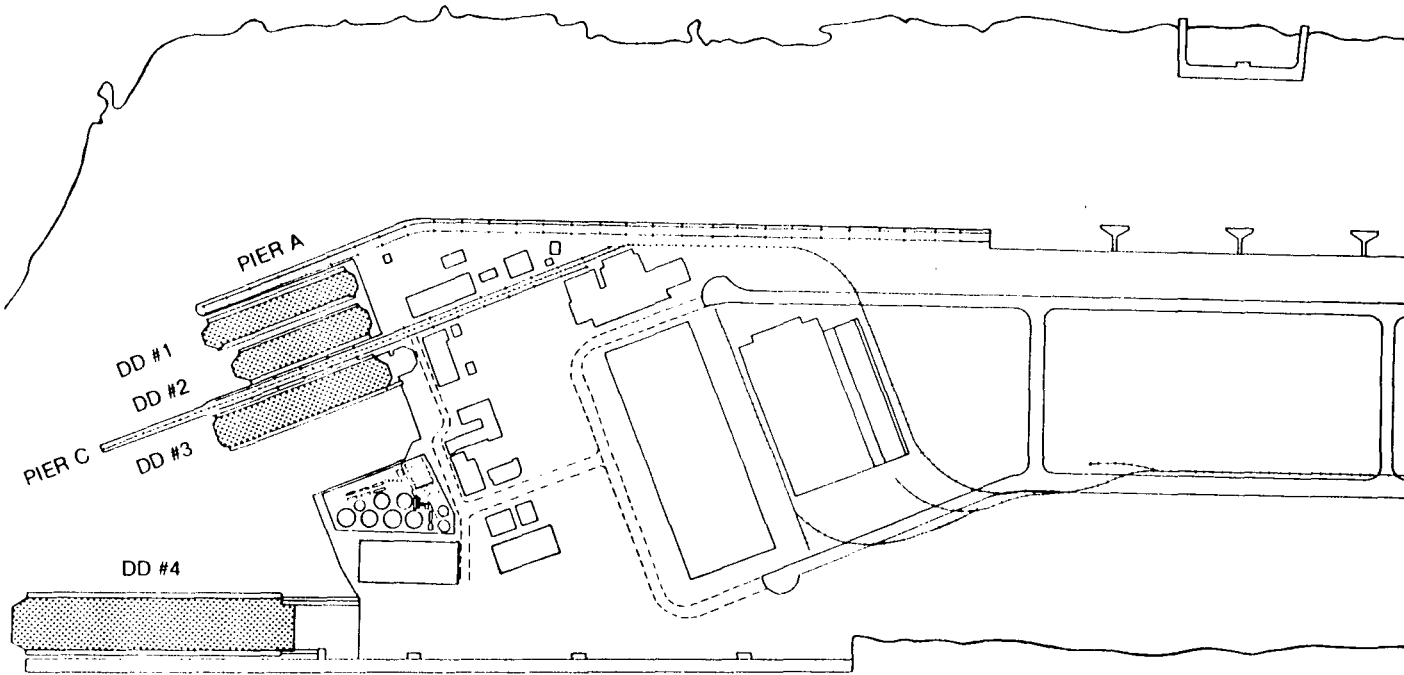
1,070'  
1,085'  
1,068'  
232'

Channel Width: 600-700'

**Columbia River Bar Pilots**  
Astoria, Oregon  
Phone: (503) 325-2641  
TWX: 910-466-8014

**Columbia River Pilots**  
Portland, Oregon  
Phone: (503) 228-9325

# DRY DOCKS



## DRY DOCKS

The Portland Ship Repair Yard is the only publicly owned, privately operated major shipyard in the United States, occupying 125 acres (50.6 hectares) on the Willamette River's 40-foot (12.2 meters) channel. It is five miles downstream from Portland, Oregon's central business district.

The Port of Portland has consolidated its dry dock and repair facilities to provide a modern shipyard equipped to satisfy a wide range of requirements.

Dry docks are constructed to serve vessels ranging in size from small river tugs and barges to oceangoing vessels of 275,000 dwt.

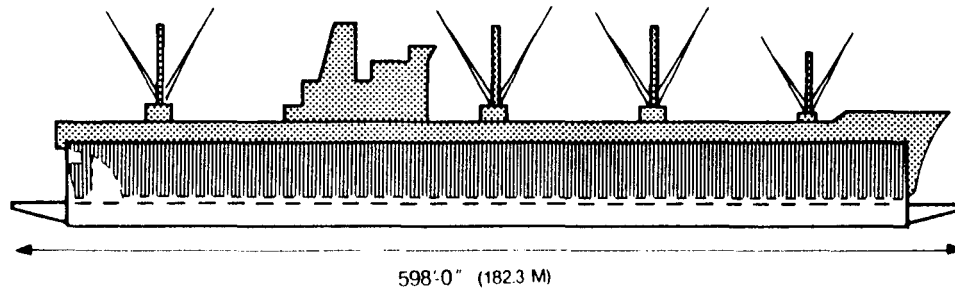
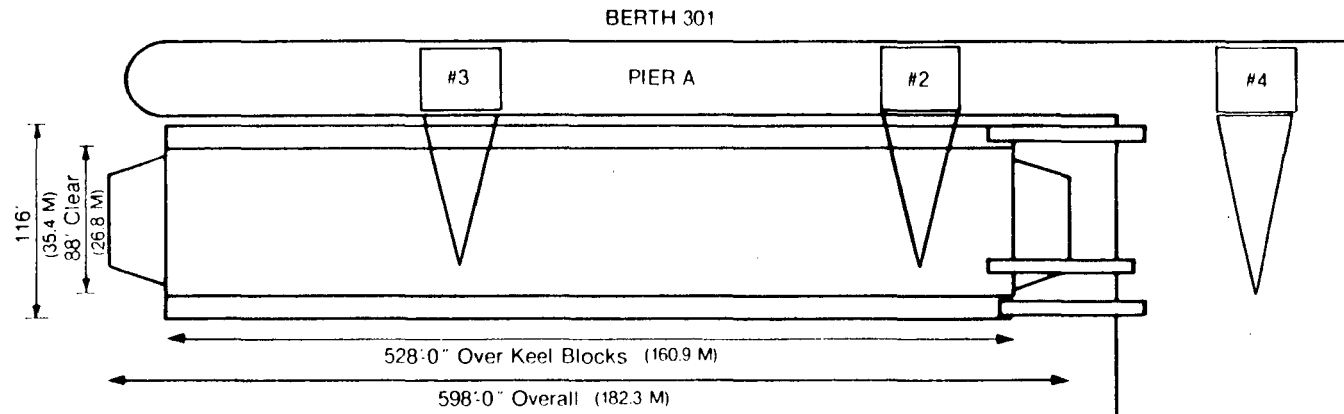
# DRY DOCKS

## DRY DOCK 1

### HARRIS STEEL

#### Dry Dock 1

Dry Dock 1, built by the U.S. Navy, has been leased by the Port since 1952. It is a steel dock of the Harris design.



Lift capacity:  
14,000 long tons @ 18"  
freeboard  
(14,224 metric tons)  
Length overall:  
598 feet  
(182.3 meters)

Clear width:  
88 feet  
(26.8 meters)

Length over keel blocks:  
528 feet  
(160.9 meters)  
Depth over keel blocks:  
29.6 feet  
(9.0 meters)

DD1

# DRY DOCKS

## DRY DOCK 1

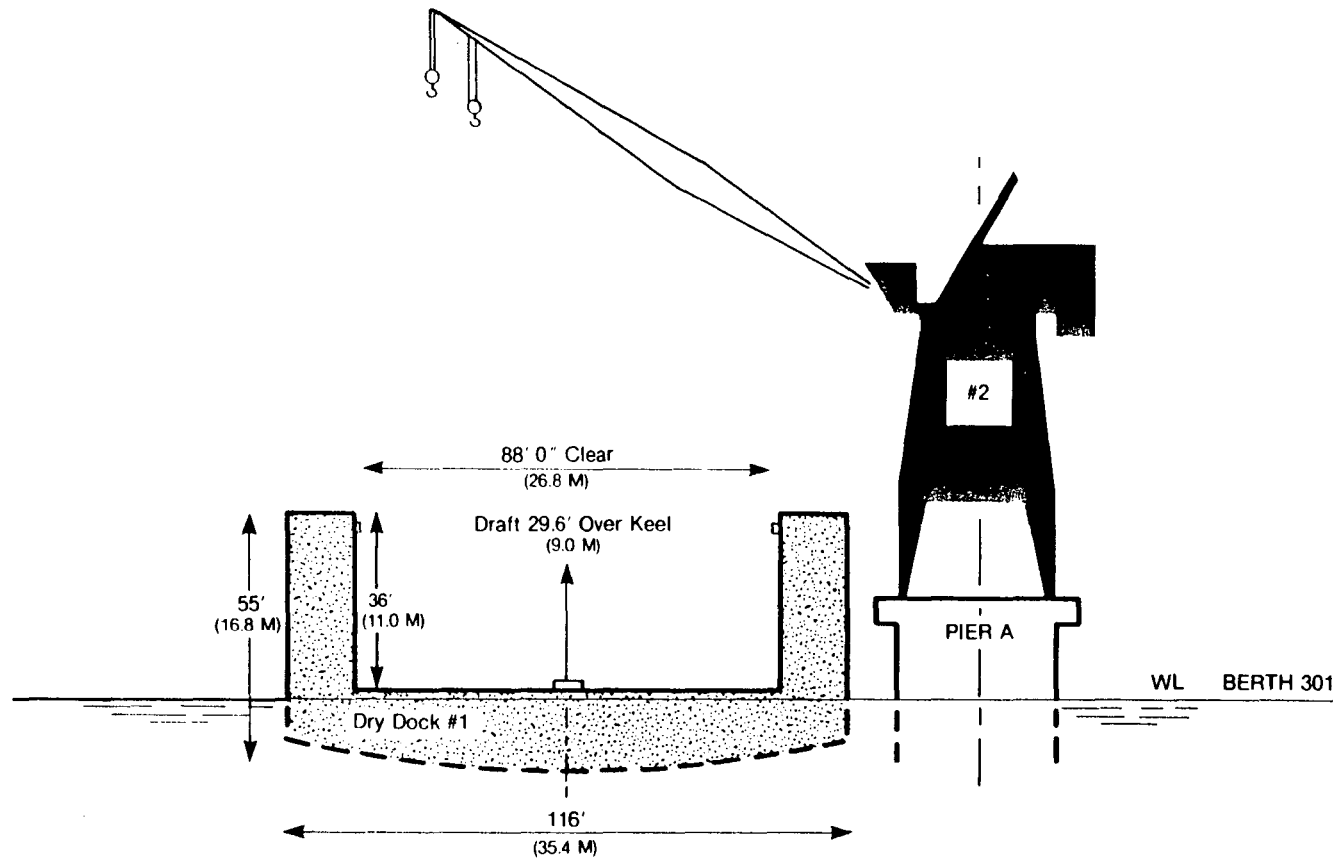
### CRANE SERVICE

Crane No.'s 2, 3, & 4  
45-short-ton capacity  
(40.8 metric tons)

Type: Washington

Lifting capacity at centerline:

19 short tons (17.3 metric tons)



DD2

NWMAR133946



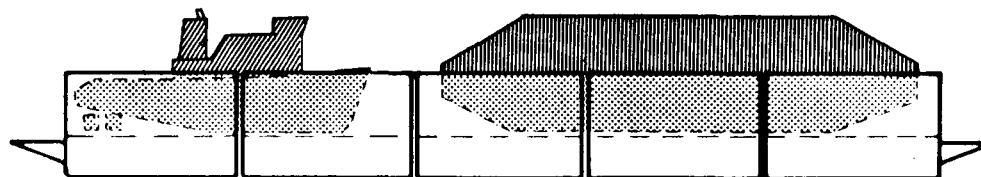
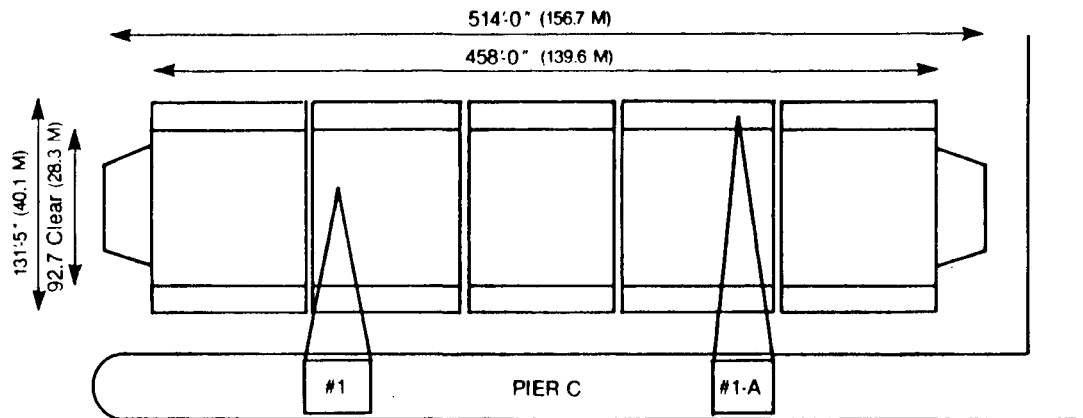
# DRY DOCKS

## DRY DOCK 2

### WOODEN SECTIONAL

#### Dry Dock 2

Dry Dock 2's sectional pontoon design enables each of its five sections to operate independently. The dock is used primarily for tugs, barges, dredges, and small- to medium-sized vessels.



Lift capacity:  
9,000 long tons  
(9,144 metric tons)  
Length overall:  
514 feet  
(156.7 meters)  
Clear width:  
92.7 feet  
(28.3 meters)

Length over keel blocks:  
458 feet  
(139.6 meters)  
Depth over keel blocks:  
28 feet  
(8.5 meters)

# DRY DOCKS

## DRY DOCK 2

### CRANE SERVICE

**Crane No. 1**  
45-short-ton capacity  
(40.8 metric tons)

Type: Washington

Lifting capacity at centerline:

16 short tons (14.5 metric tons)

**Crane No. 1-A**  
90-short-ton capacity  
(81.6 metric tons)

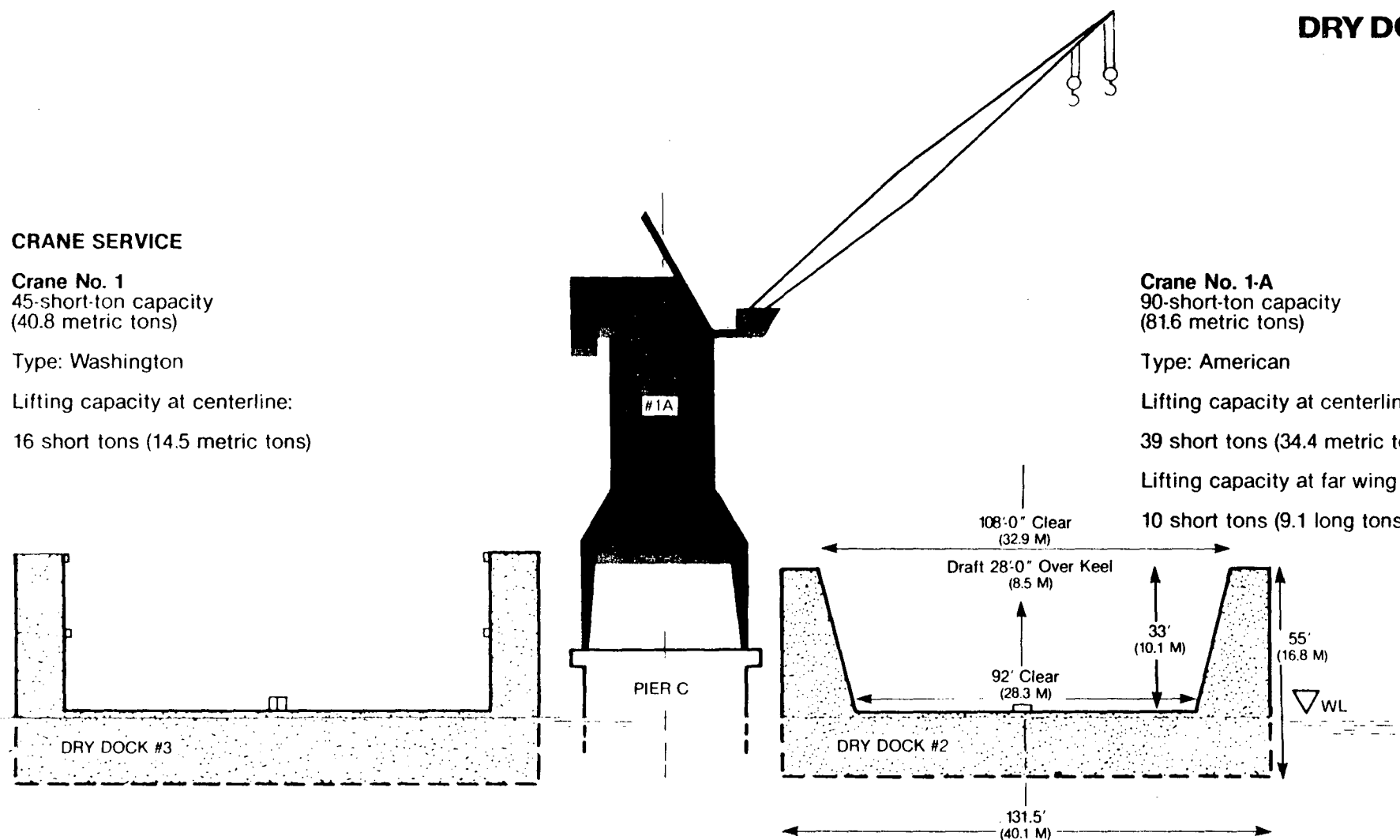
Type: American

Lifting capacity at centerline:

39 short tons (34.4 metric tons)

Lifting capacity at far wing wall:

10 short tons (9.1 long tons)



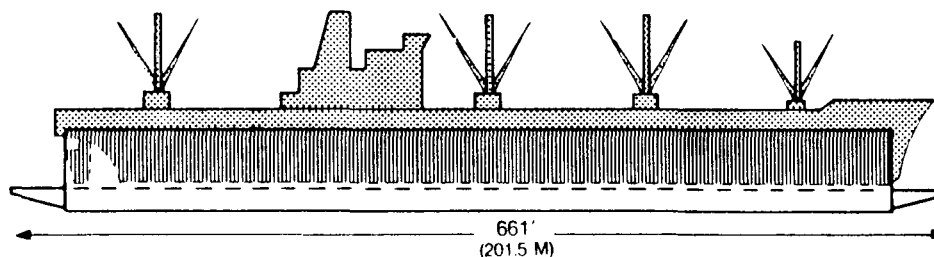
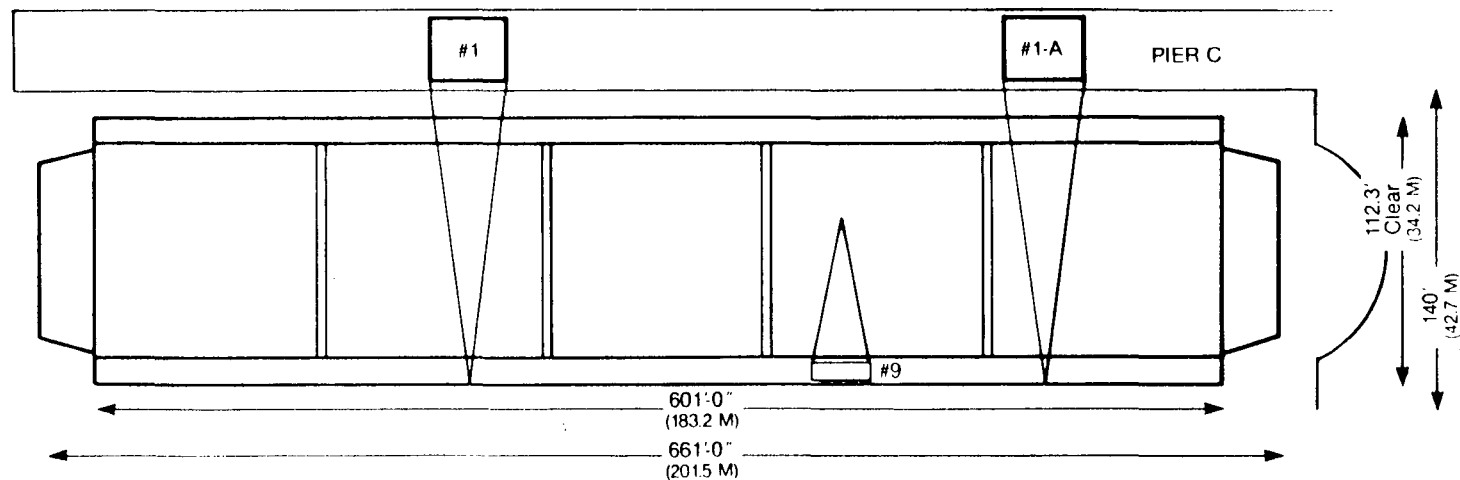
# DRY DOCKS

## DRY DOCK 3

### RENE STEEL

#### Dry Dock 3

This dry dock has efficiently served 50,000 dwt. vessels with lengths in excess of 800 feet. Vessels docked include all panamax size ships.



Lift capacity:  
24,270 long tons  
(24,658 metric tons)  
Length overall:  
661 feet  
(201.5 meters)  
Clear width:  
112.3 feet between  
the wing walls  
(34.2 meters)

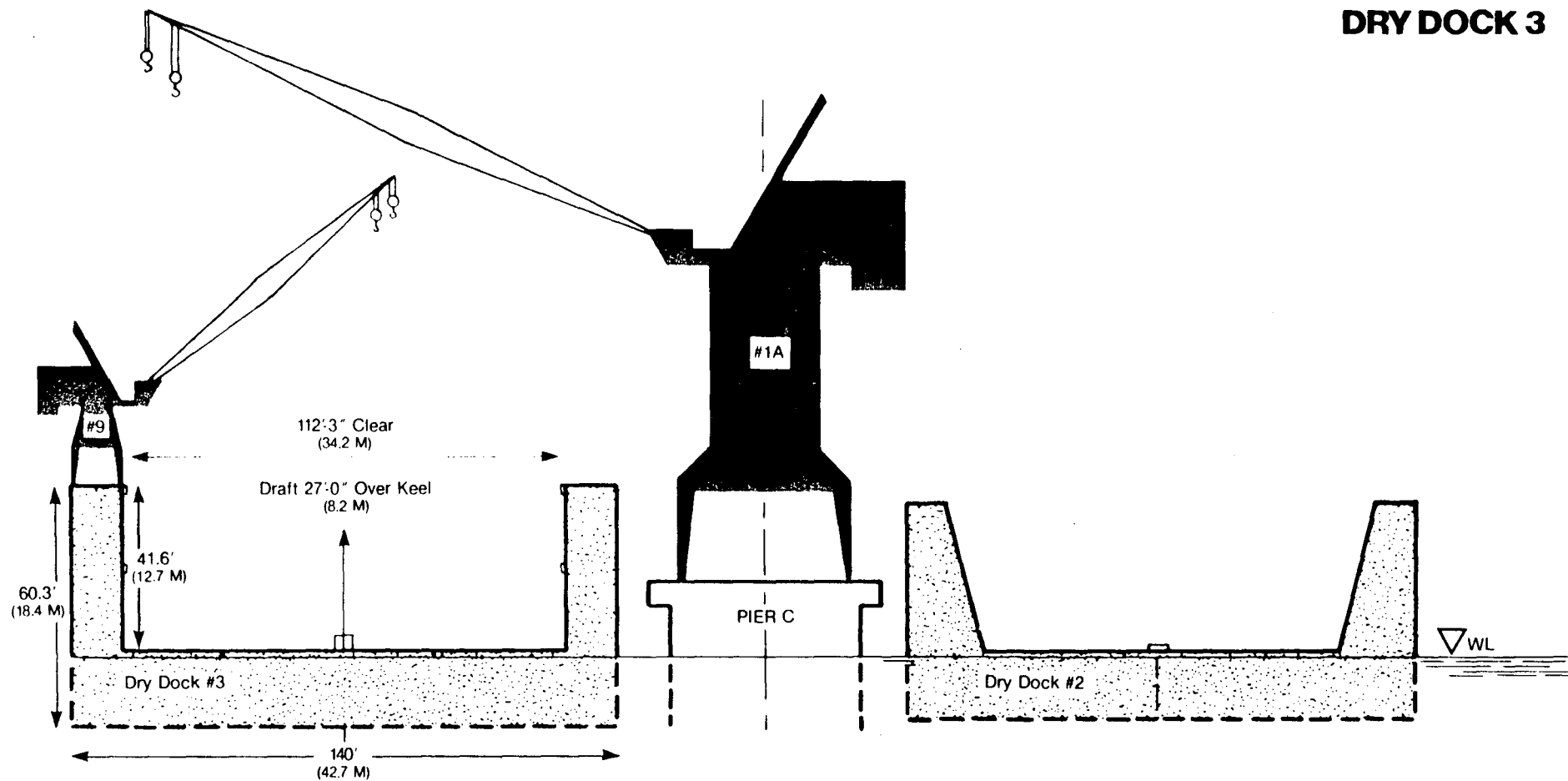
Length over keel blocks:  
601 feet  
(183.2 meters)  
Depth over keel blocks:  
27 feet  
(8.2 meters)

DD5

NWMAR133949

# DRY DOCKS

## DRY DOCK 3



### CRANE SERVICE

**Crane No. 1**  
 45-short-ton capacity  
 (40.8 metric tons)  
 Type: Washington  
 Lifting capacity at centerline:  
 12 short tons (10.9 metric tons)

**Crane No. 1-A**  
 90-short-ton capacity  
 (81.6 metric tons)  
 Type: American  
 Lifting capacity at centerline:  
 28 short tons (25.4 metric tons)

**Crane No. 9**  
 28-long-ton capacity  
 (26.4 metric tons)  
 Type: Clyde  
 Lifting capacity at centerline:  
 7.5 short tons (6.8 metric tons)

DD6

NWMAR133950

# DRY DOCKS

## DRY DOCK 4

### CONTINUOUS STEEL PONTON AND WING WALL

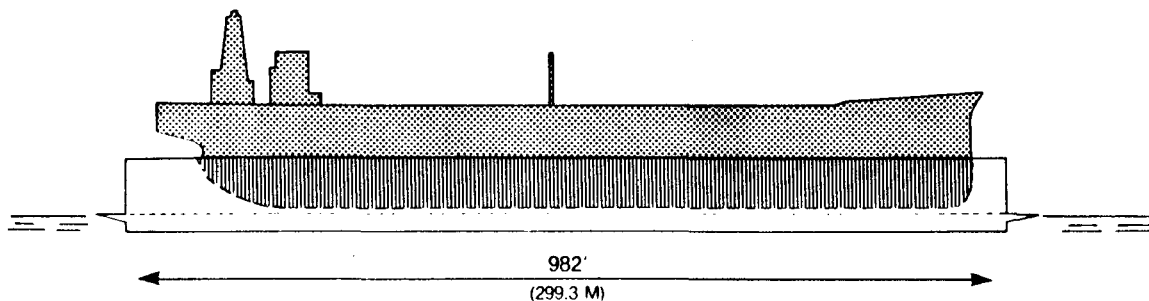
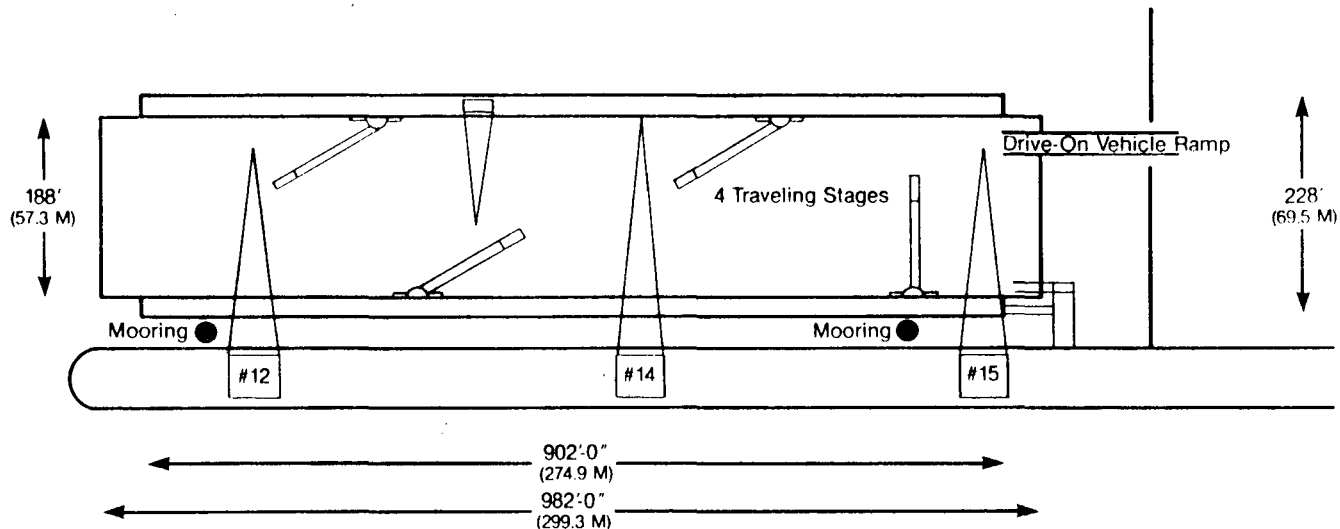
#### Dry Dock 4

Dry Dock 4 is the largest floating dry dock on the North American West Coast and the third largest in the world. It provides service to ships to 275,000 dwt.

Dry Dock 4 was built in Kure, Japan, by Ishikawajima-Harima Heavy Industries and was placed in service in March of 1979. It is designed to serve the Alaskan oil fleet, as well as other large vessels.

#### Working Efficiency Features

- Minimum headroom—6'-0"
- Drive-on ramp—highway rated
- 5 worker access ramps
- 3 wing wall access stairs
- Pontoon deck lighting
- Wing wall lighting
- Flush pontoon deck
- 4 wing wall-mounted traveling stages

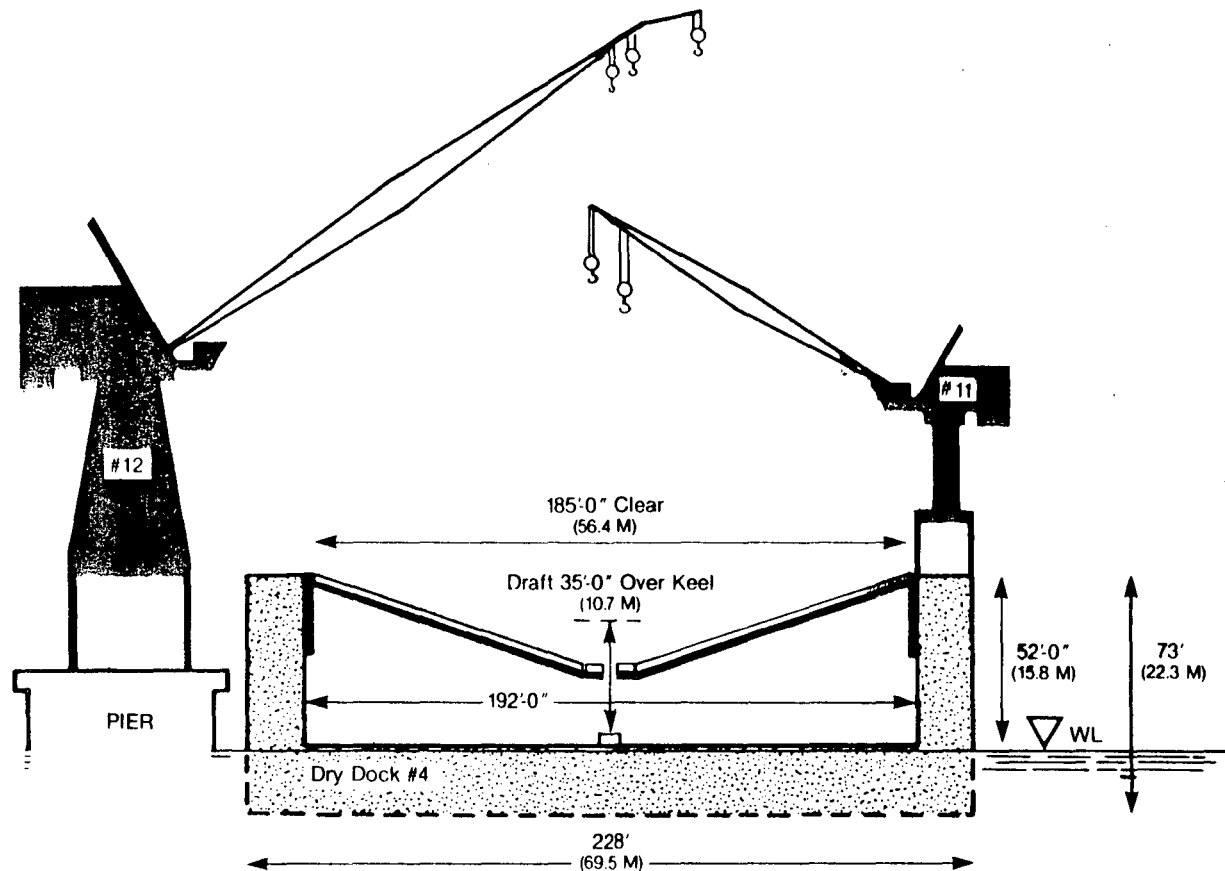


Lift capacity:  
81,000 long tons  
(82,296 metric tons)  
Length overall:  
982 feet  
(299.3 meters)  
Clear width:  
185 feet  
(56.4 meters)

Length over keel blocks:  
902 feet  
(274.9 meters)  
Depth over keel blocks:  
35 feet  
(10.7 meters)

# DRY DOCKS

## DRY DOCK 4



### CRANE SERVICE

**Traveling Stages**  
0.75-short-ton capacity  
(68 metric tons)

**Crane No. 11**  
20-long-ton capacity  
(20.3 metric tons)

Type: Hitachi

Lifting capacity at centerline:

10.5 long tons (10.7 metric tons)

**Crane No. 12**  
100-long-ton capacity  
(101.6 metric tons)

Type: Hitachi

Lifting capacity at centerline:

28 long tons (28.5 metric tons)

**Crane No. 14**  
120-long-ton capacity  
(121.9 metric tons)

Type: Hitachi

Lifting capacity at centerline:

56 long tons (56.9 metric tons)

Lift capacity at wing wall:

10 long tons (10.1 metric tons)

**Crane No. 15**  
75-long-ton capacity  
(76.2 metric ton)

Type: Hitachi

Lifting capacity at centerline:

12 long tons (12.2 metric tons)

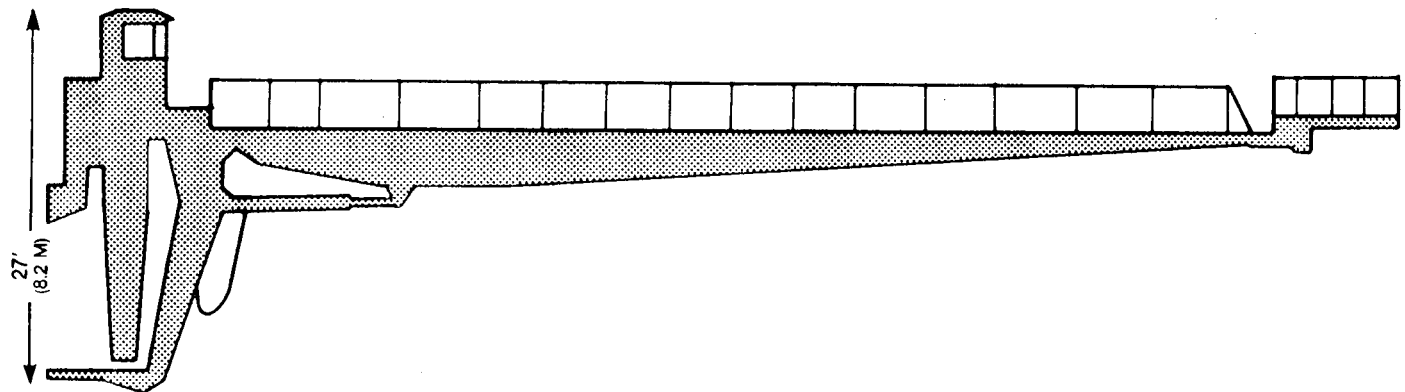
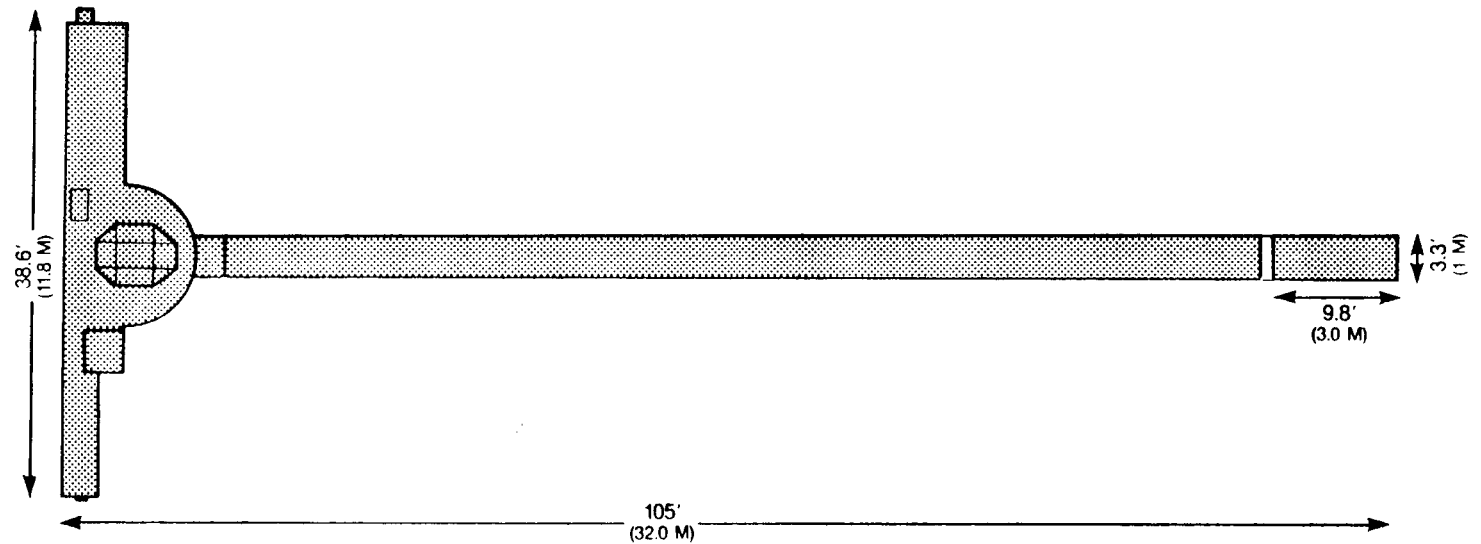
DD8

# DRY DOCKS

## DRY DOCK 4

### WING WALL-MOUNTED TRAVELING STAGES

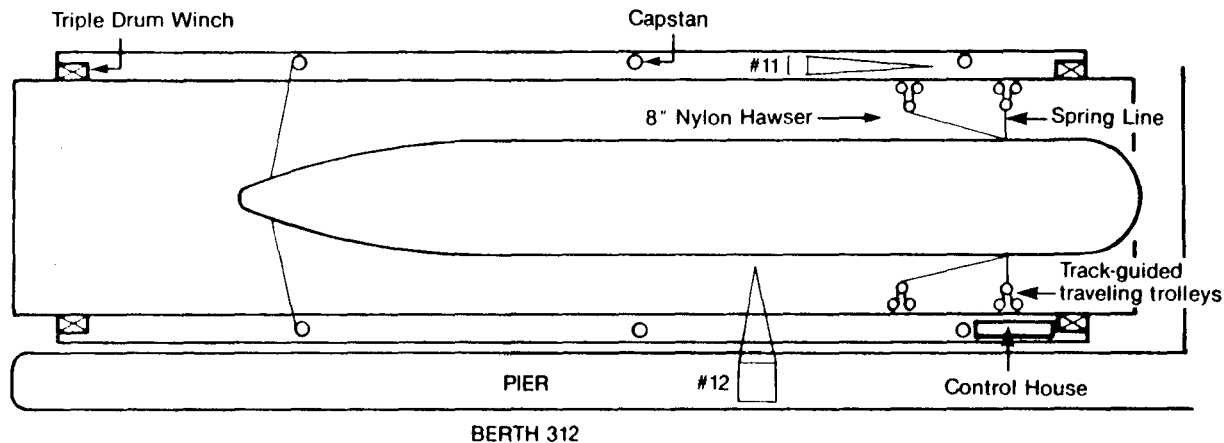
Dry Dock 4 is equipped with four self-propelled wing wall-mounted traveling stages. This feature provides access for cleaning and coating of the vessel from keel to main deck, along with worker access for mechanical repair and welding.



# DRY DOCKS

## DRY DOCK 4

### CENTERING TROLLEY SYSTEM



Dry Dock 4 is equipped with a modern ship centering and hauling system. This system includes two hydraulically powered winches and travelling trolleys that provide controlled vessel hauling and position capability. The vessel's movement into and out of the dry dock is directed by four track-guided trolleys operated by the triple drum winches. The ship's line is reaved from the winches through sheaves mounted on trolleys that travel the length of the dry dock on rails. In addition, three electrically powered capstans on each wing wall provide power for breasting and spring lines as required.

This trolley system, in conjunction with the sonar positioning system and spring lines, expedite the positioning of the vessel during dry-docking.

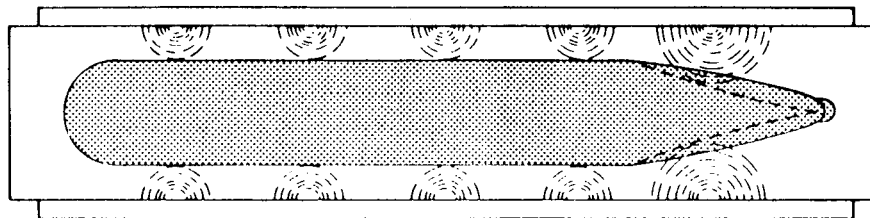


# DRY DOCKS

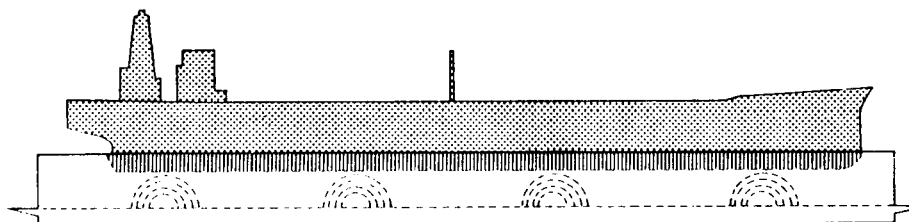
## DRY DOCK 4

### SONAR SHIP POSITIONING

Dry Dock 4 is equipped with a system that accurately locates the position of the ship hull within the dry dock. The system employs sonar signals to measure the distance between the ship's hull plate and the dry dock wing wall. The sonar system also measures the distance between the ship keel blocks and the dry dock bottom. A digital display in the dry dock control room provides the dockmaster with instant access to this information during dry dock operations.

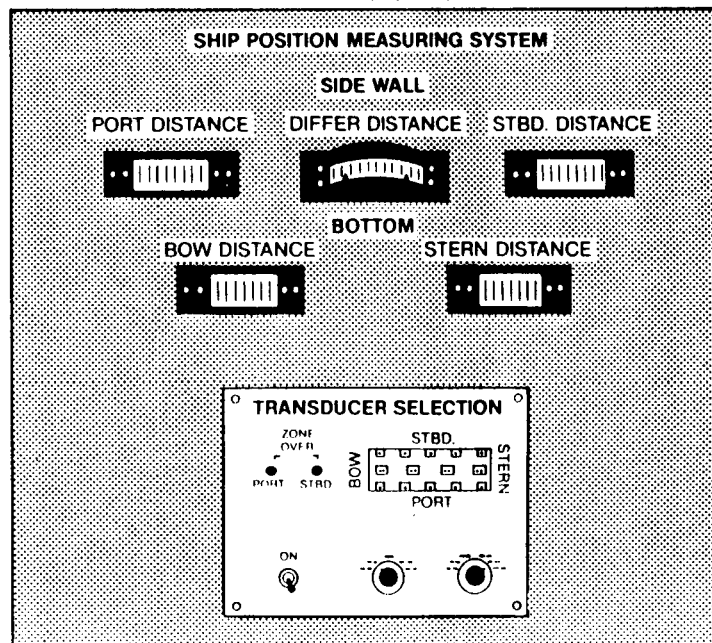


Wing Wall Transducers



Bottom Transducers

### SONAR READOUT CONSOLE IN CONTROL HOUSE OF DRY DOCK #4

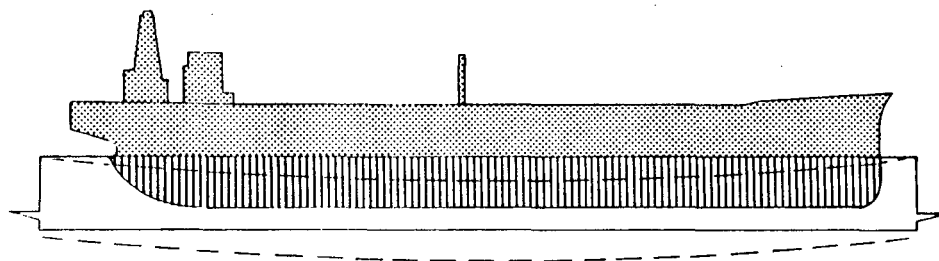
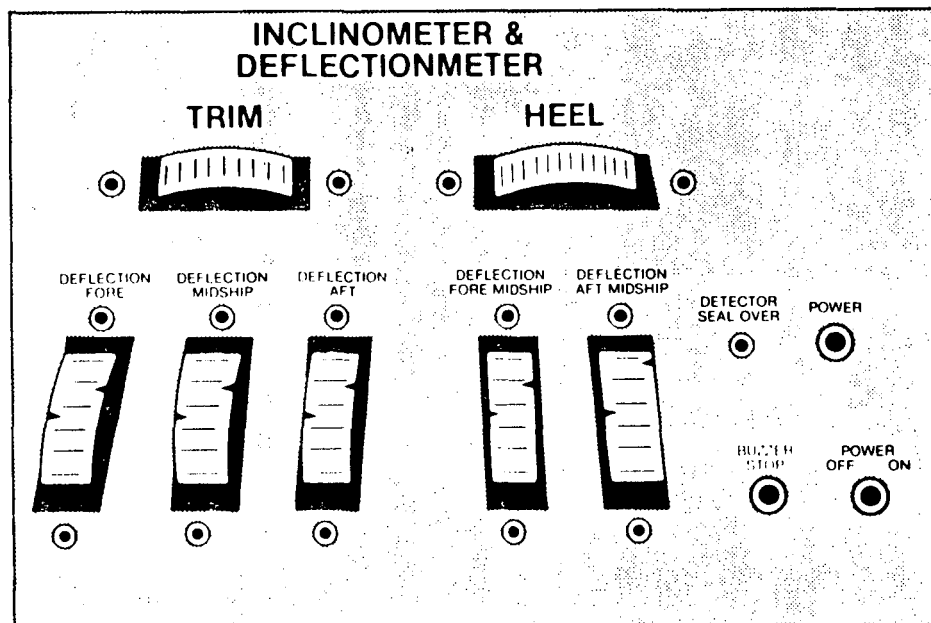


# DRY DOCKS

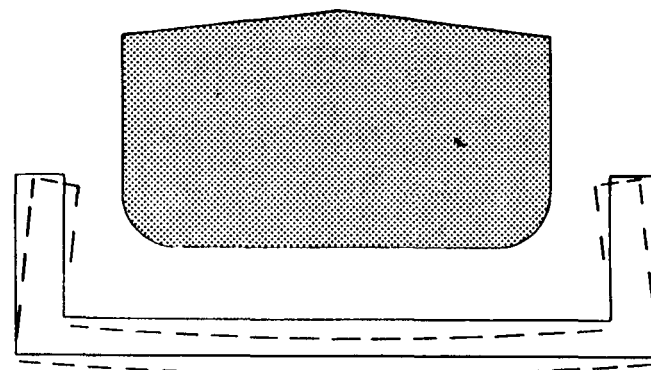
## DRY DOCK 4

### DEFLECTION MONITORING SYSTEM

The deflection monitoring system measures trim and list, hog and sag. This system, in conjunction with optics and ballast water level indicators, provides the dockmaster with complete control information during dry dock evolution and assures the vessels safety during major repair or modification work.



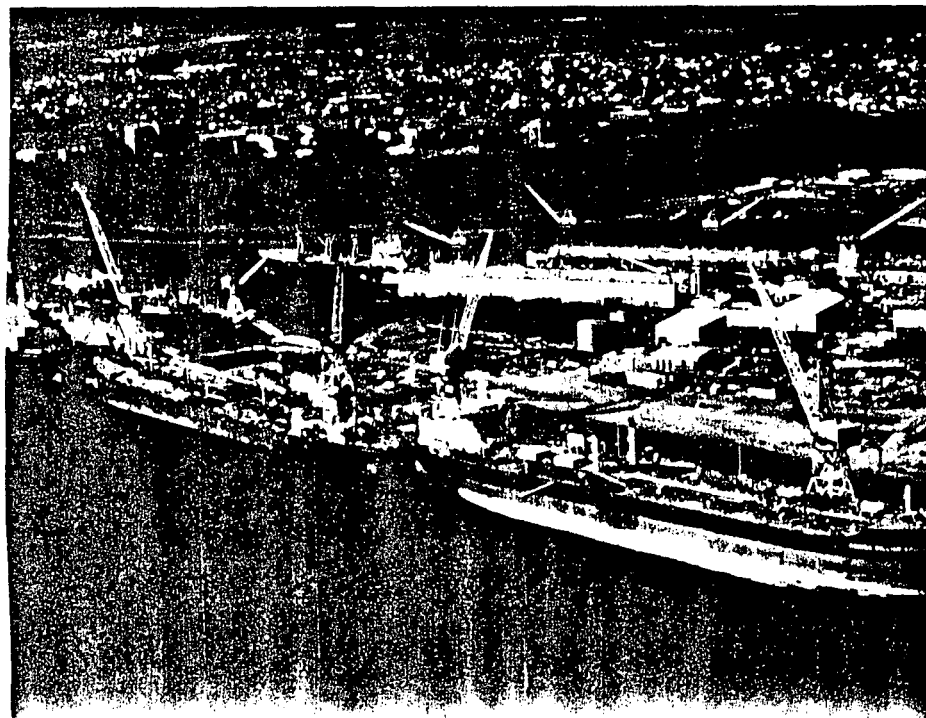
longitudinal deflection



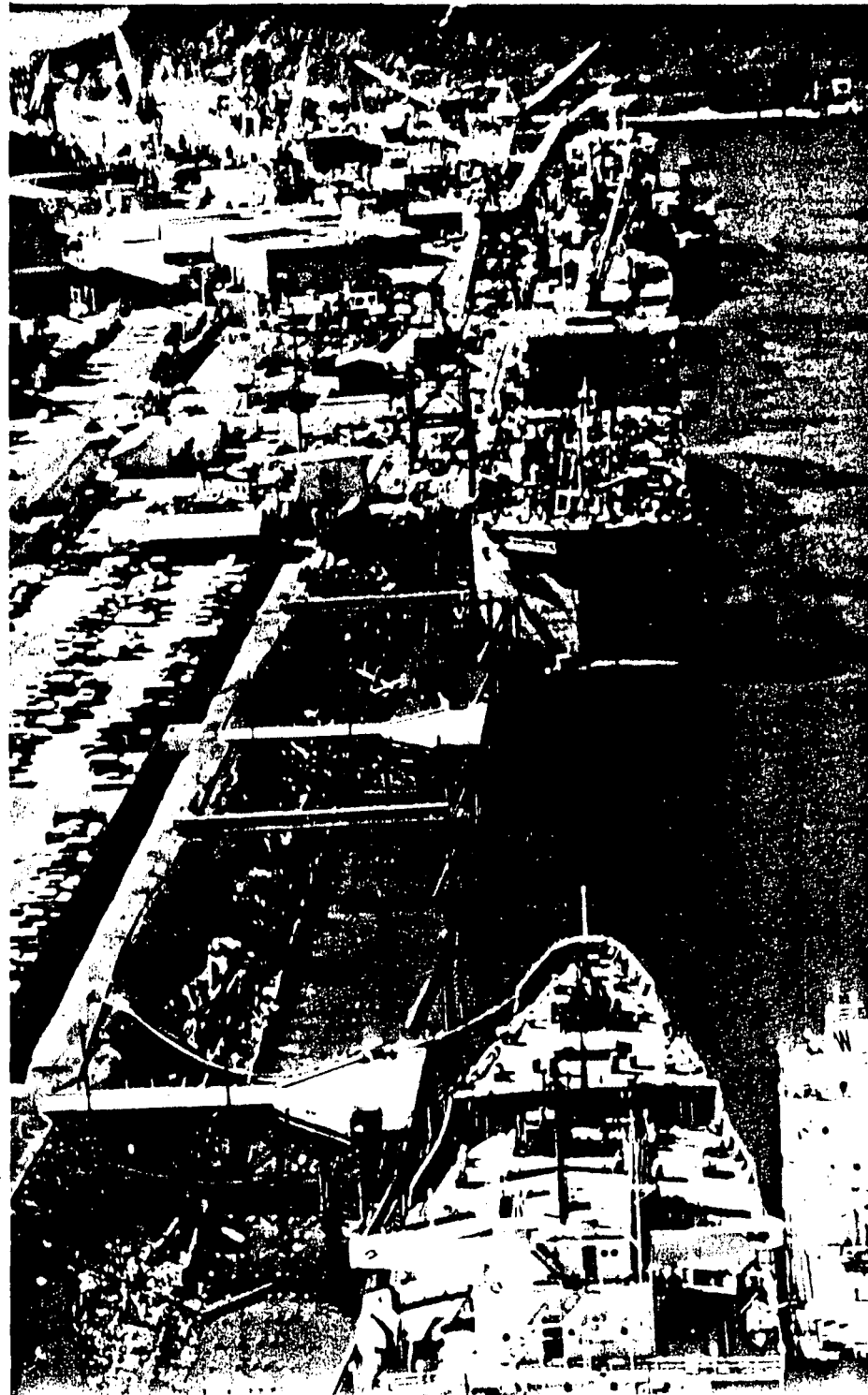
transverse deflection



USS MONTICELLO anchor chain awaits sandblasting at Berth 304.



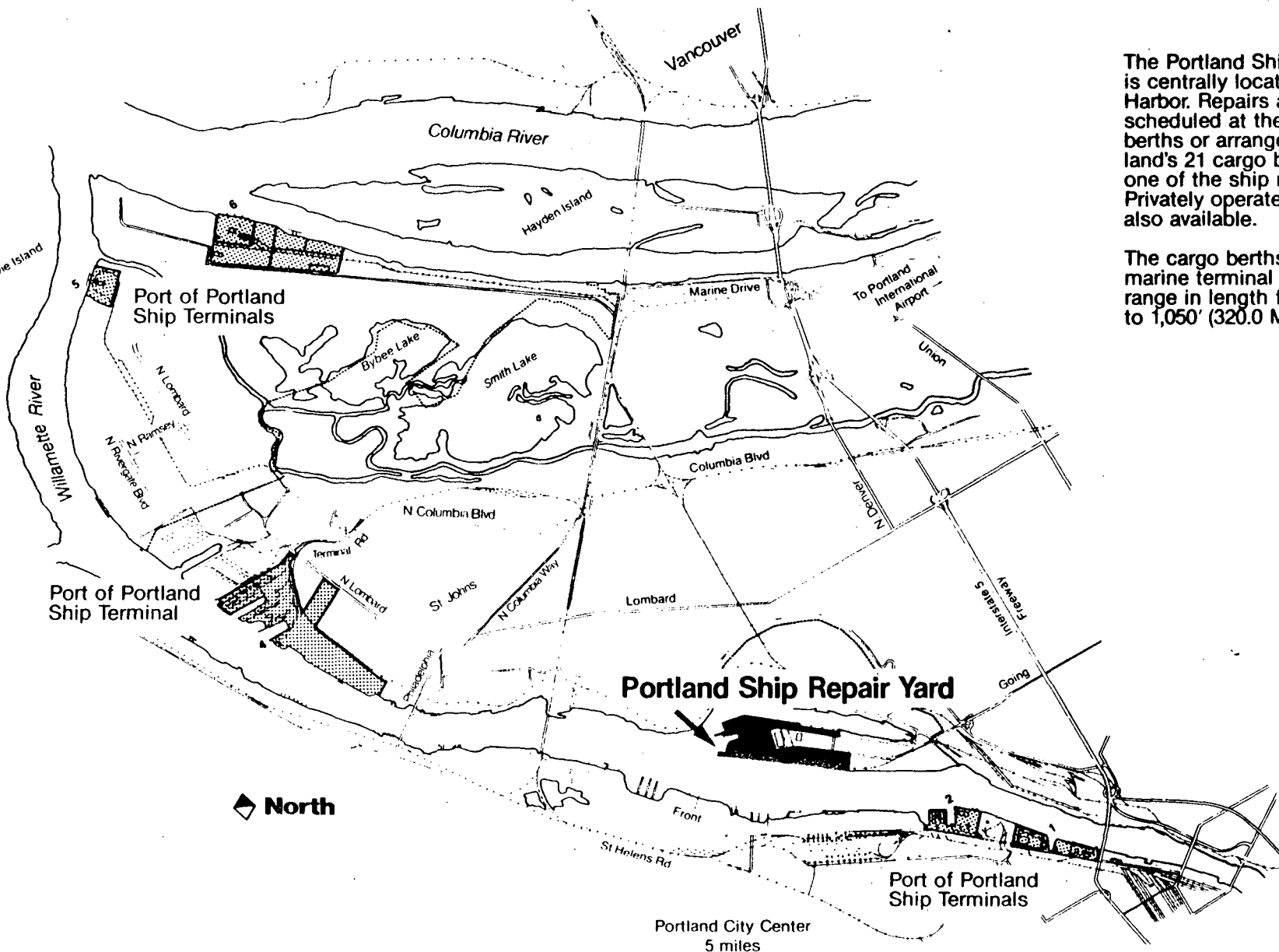
Repair Berths 312, 313 and 314, total length 3,000 feet.



View of repair Berths 301 through 305; total length 2,900 feet.

# BERTHS

## PORTLAND HARBOR



The Portland Ship Repair Yard is centrally located in the Portland Harbor. Repairs afloat can be scheduled at the shipyard's 14 berths or arranged at any of Portland's 21 cargo berths by calling one of the ship repair contractors. Privately operated berth space is also available.

The cargo berths are part of the marine terminal cargo system and range in length from 700' (213.4 M) to 1,050' (320.0 M).

# BERTHS

## SHIP REPAIR YARD

Berth	Use	Length	Water Depth (Minimum at Low Water Stage) +	Crane Service (By Crane Identification Number)	Maximum Crane Lift	Available Utilities*
301	Repair	780' (237.7 M)	30' ( 9.1 M)	2, 3, 4	45 ST	All
302	Repair	530' (161.5 M)	30' ( 9.1 M)	4-8	45 ST	All
303	Repair	530' (161.5 M)	30' ( 9.1 M)	4-8	45 ST	All
304	Repair	530' (161.5 M)	30' ( 9.1 M)	4-8	45 ST	All
305	Repair	530' (161.5 M)	30' ( 9.1 M)	4-8	45 ST	All
306	Lay-Up	500' (152.4 M)	20' ( 6.1 M)	Mobile	30 ST	E, W
307	Lay-Up	500' (152.4 M)	20' ( 6.1 M)	Mobile	30 ST	E, W
308	Lay-Up	500' (152.4 M)	20' ( 6.1 M)	Mobile	30 ST	E, W
309	Lay-Up	500' (152.4 M)	30' ( 9.1 M)	1 (100' Reach)	6 ST	E, W
310	Lay-Up	500' (152.4 M)	30' ( 9.1 M)	1 (100' Reach)	6 ST	E, W
311	Lay-Up	700' (213.4 M)	35' (10.7 M)	Mobile	30 ST	E, W
312	Repair	1,000' (304.8 M)	40' (12.2 M)	12, 14-17	120 LT	All
313	Repair	1,000' (304.8 M)	40' (12.2 M)	12, 14-17	120 LT	All
314	Repair	1,000' (304.8 M)	40' (12.2 M)	12, 14-17	120 LT	All

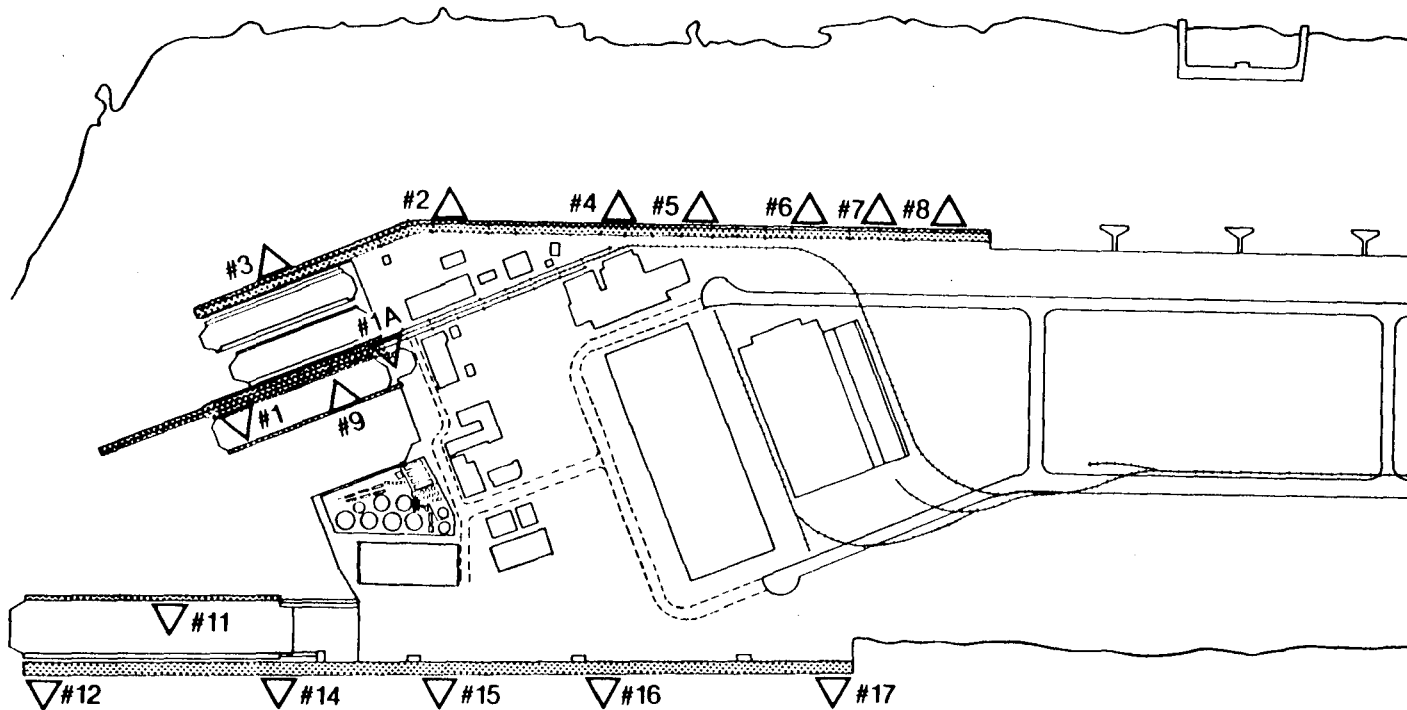
**\*Available Utility Coding:**

ALL—Compressed Air, Electricity, Natural Gas, Oxygen, Steam, Potable Water, River Water, Sewer Disposal,  
Foreign Garbage

E, W—Electricity and Water only.

+ The water depths stated are the design depths for all berths. Actual water depth may vary due to siltation. Contact the Port of Portland for actual depth per berth information.

# CRANES



All cranes are manned by fully trained operators, experienced in ship repair work. Regular operating hours are day and swing shifts. However, the cranes are available on call 24 hours per day, 7 days per week.

The variety in size and lift capacity of the cranes renders them capable of both heavy lifting and handling lines. The cranes are able to perform the wide range of work required on ship repair.

# CRANES

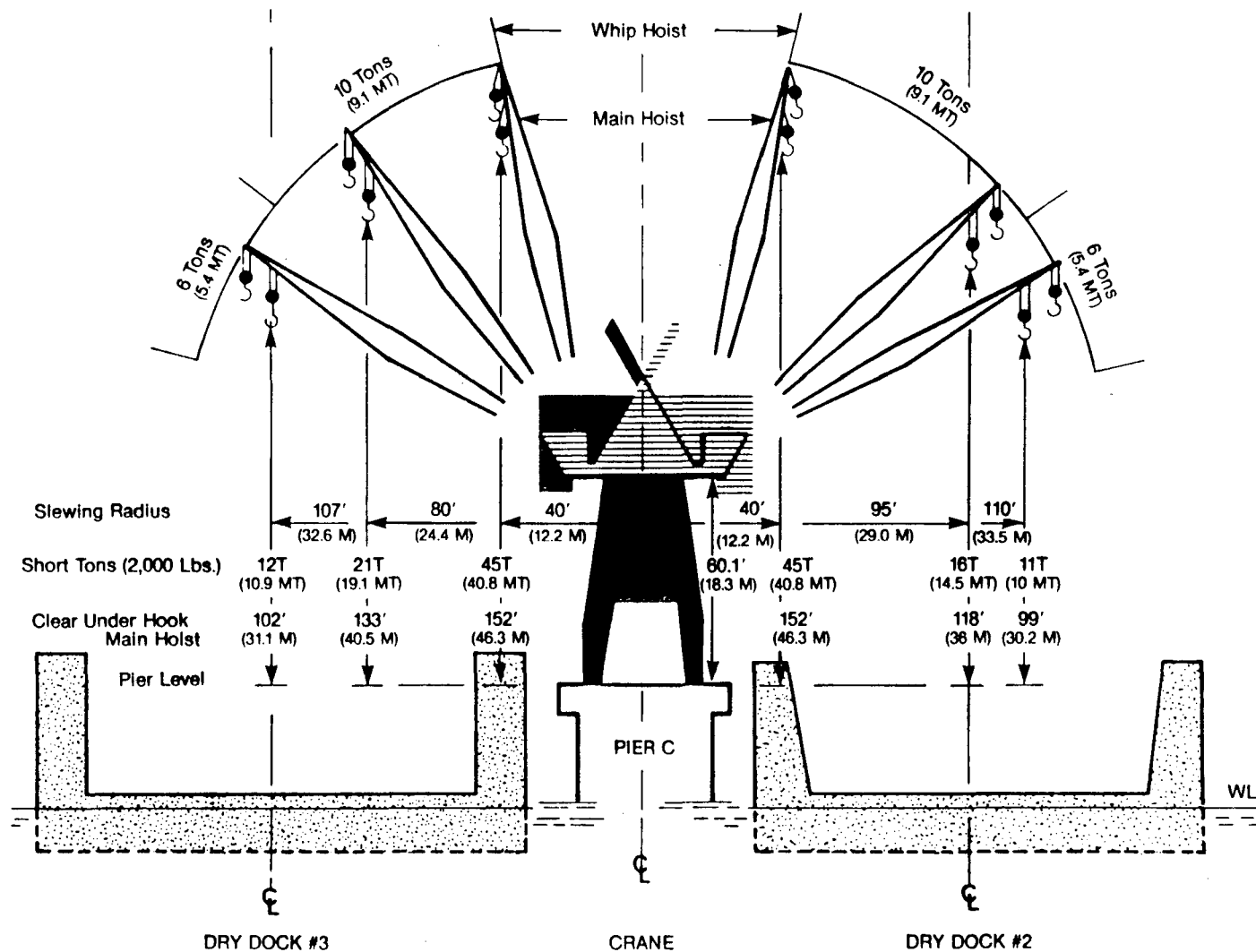
## CRANE #1

Lift Capacity:

45 Short Tons  
(40.8 Metric Tons)

Service to:

Dry Dock #2 and #3 and  
Berths 309 and 310

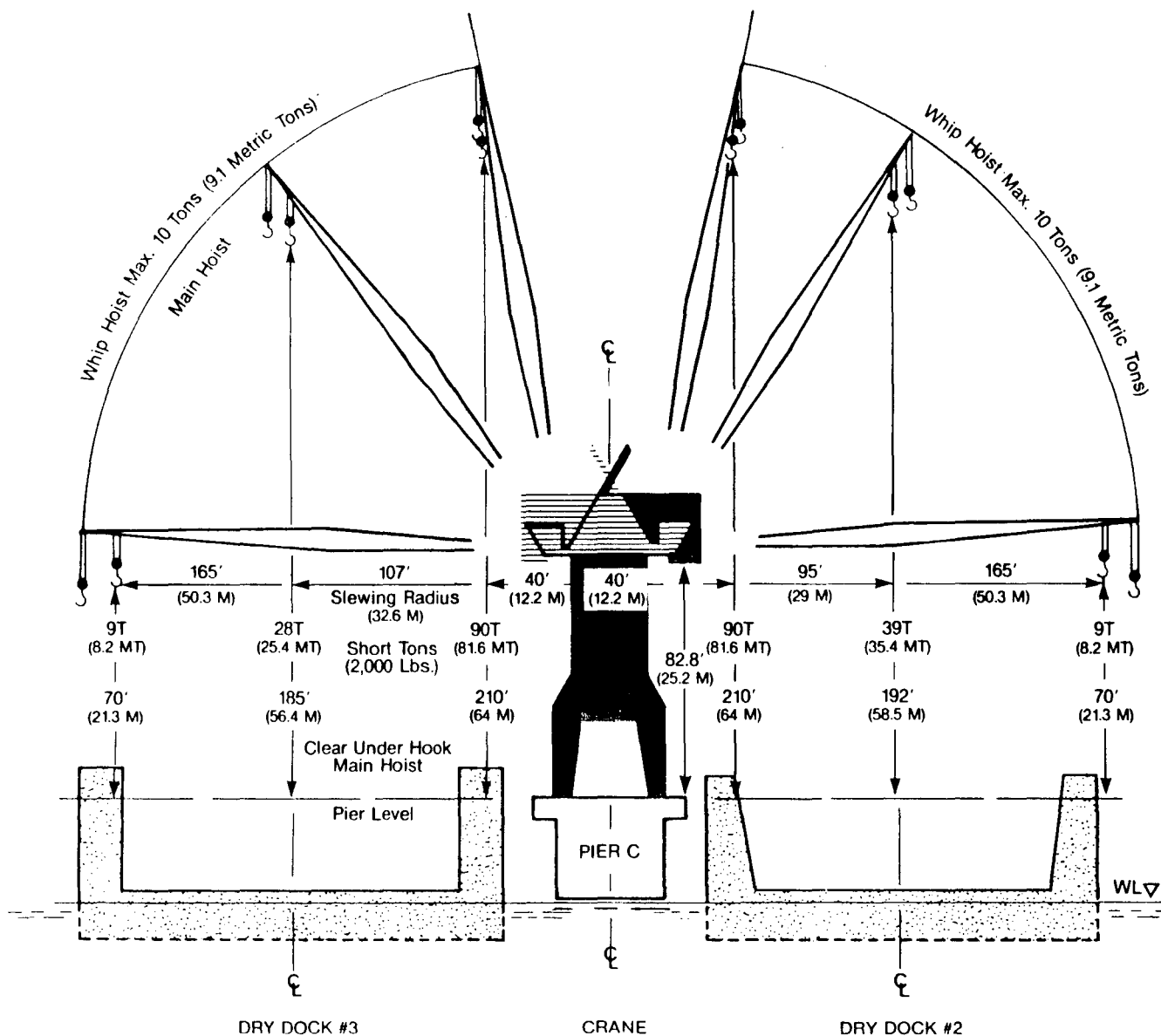


Crane #1 is capable of travel, lift and slew operations simultaneously, making its work fast and efficient. Lift capacity at maximum reach is 6 short tons (5.4 MT).

# CRANES

## CRANE #1A

Lift Capacity:  
90 Short Tons  
(81.6 Metric Tons)  
Service to:  
Dry Dock #2 and #3



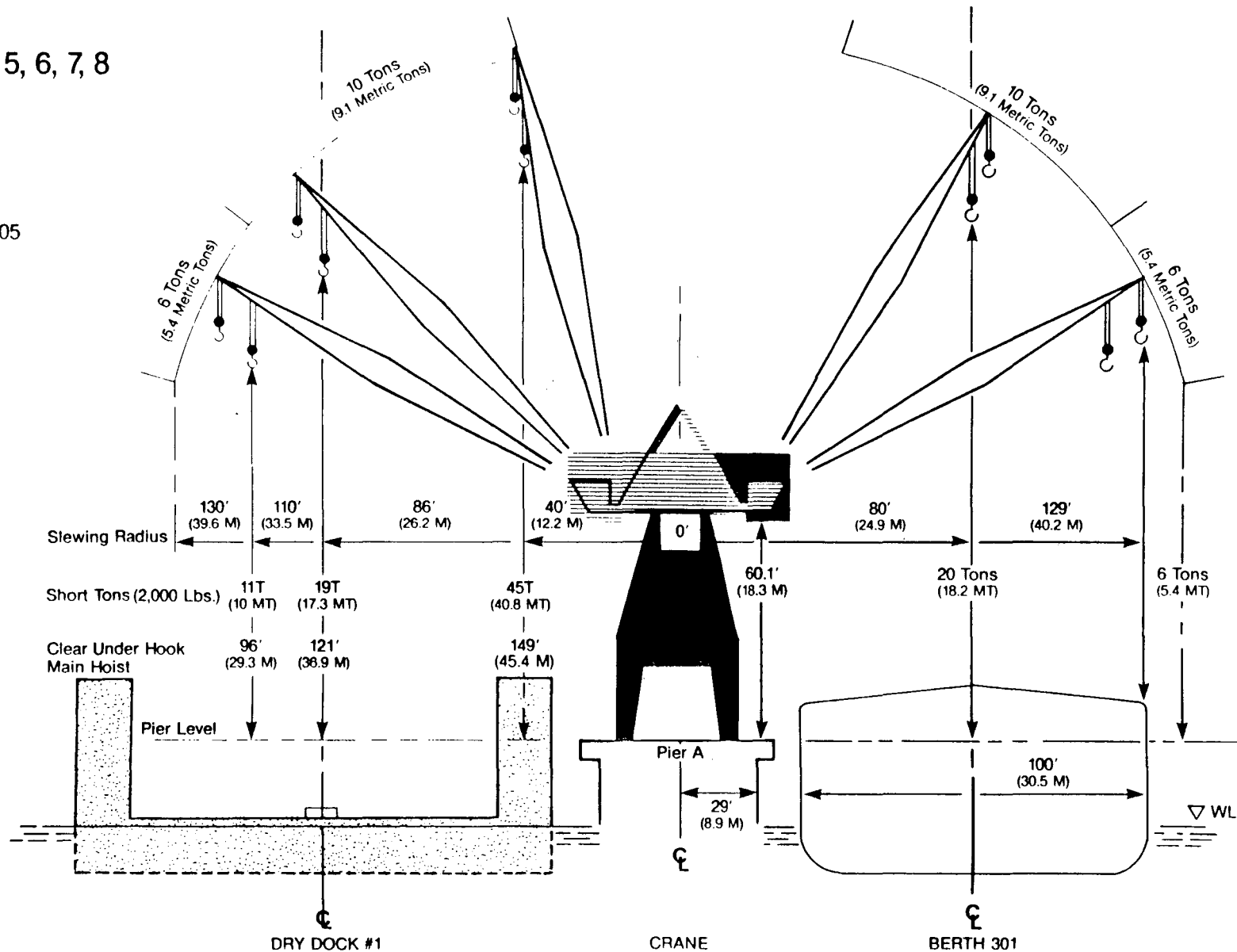
Crane #1A is one of the most efficient cranes in the yard. The 165' radius enables the crane to reach the far side of both Dry Docks #2 and #3 while maintaining a 10 short ton lift capacity. The height of the gantry allows effective service to taller ships.



# CRANES

## CRANES #2, 3, 4, 5, 6, 7, 8

Lift Capacity:  
45 Short Tons  
(40.8 Metric Tons)  
Service to:  
Dry Dock #1 and  
Berths 301 Through 305

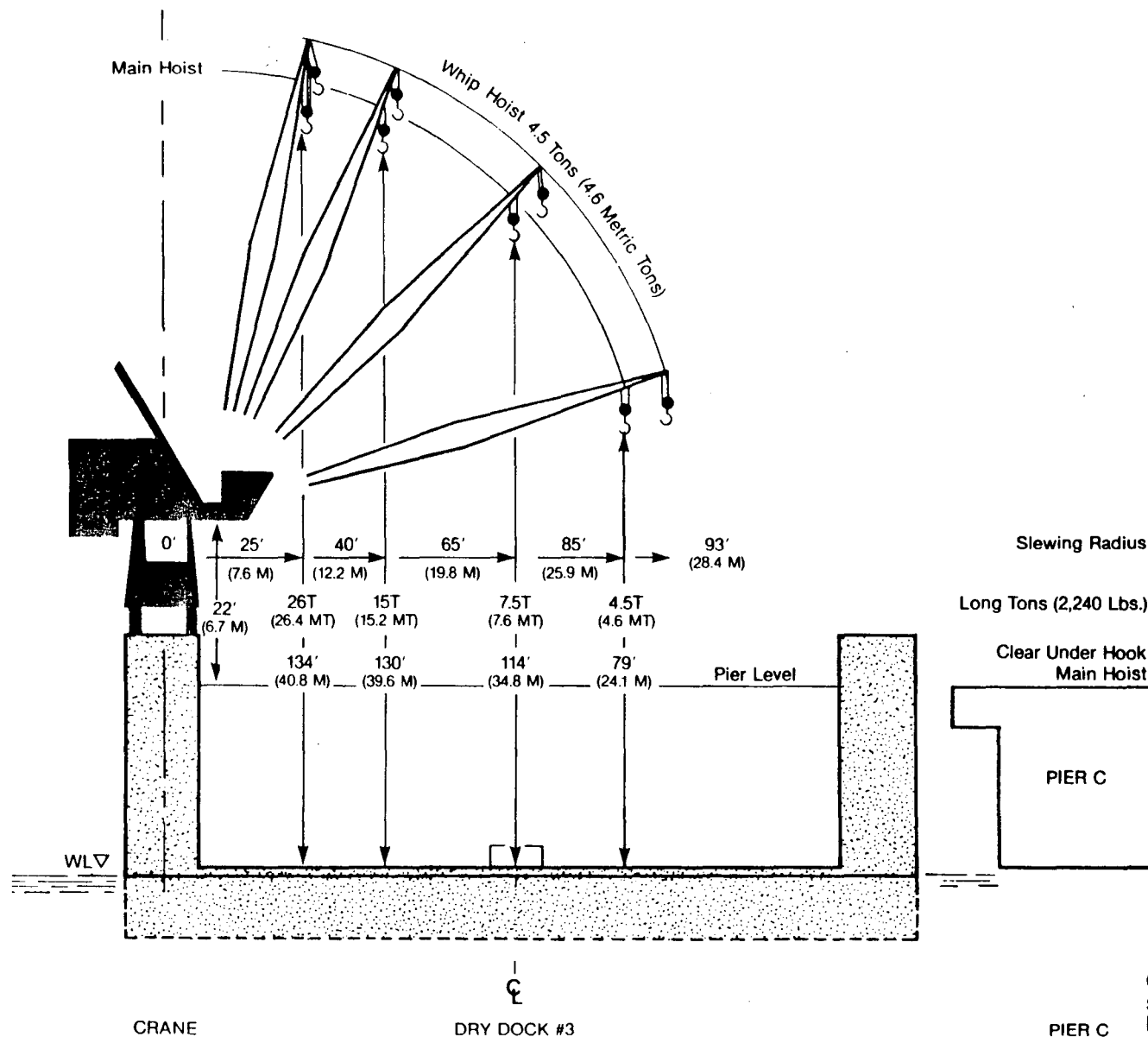


Cranes #2-8 are Washington cranes, as is Crane #1. Dry Dock #1 and Berths 301 through 305 can be serviced by up to 3 Washington cranes simultaneously.

# CRANES

## WING WALL CRANE #9

Lift Capacity:  
26 Long Tons  
(26.4 Metric Tons)  
Service to:  
Dry Dock #3

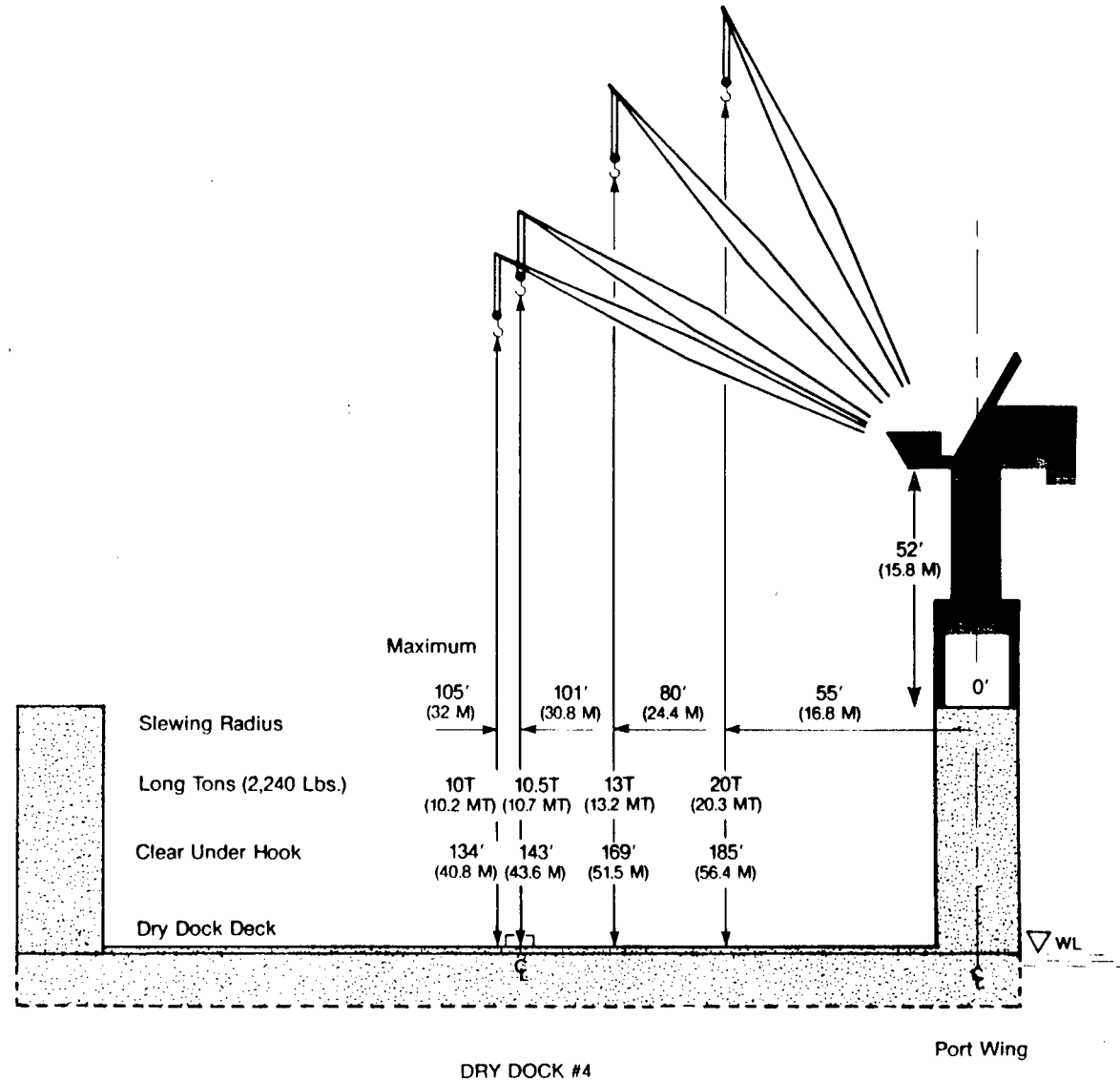


Crane #9 is especially convenient for sandblasting and painting on Dry Dock #3. Operator visibility and crane access and reach reduce the required manhours and number of men for the job. It is also used for heavier work, such as laying out anchor chains.

# CRANES

## WING WALL CRANE #11

Lift Capacity:  
20 Long Tons  
(20.3 Metric Tons)  
Service to:  
Dry Dock #4



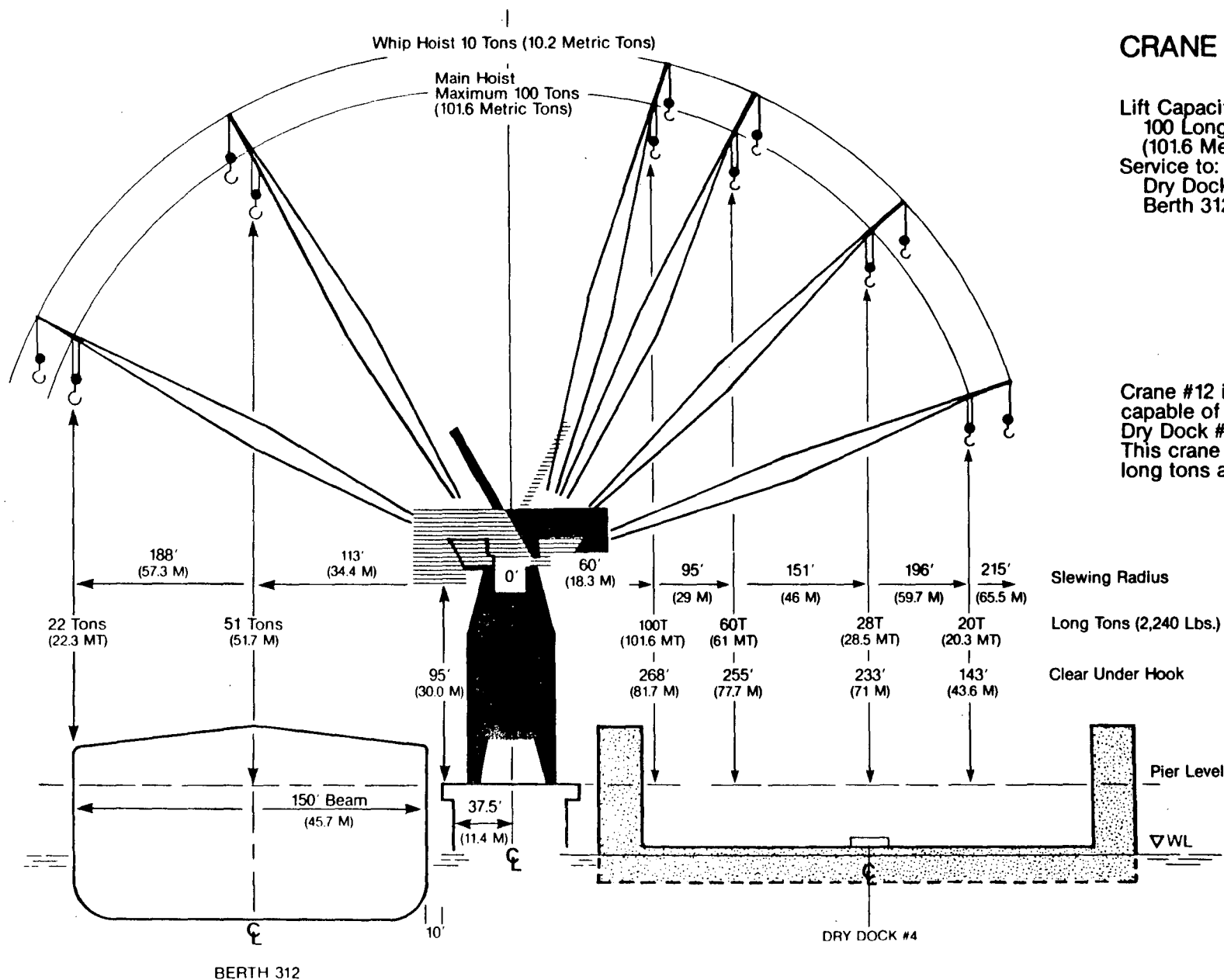
Crane #11 facilitates sandblasting and painting to the port side of Dry Dock #4. In addition, it is used for laying out anchors, chains and assistance in dry dock operations.

# CRANES

## CRANE #12

Lift Capacity:  
100 Long Tons  
(101.6 Metric Tons)  
Service to:  
Dry Dock No. 4  
Berth 312, 313, 314

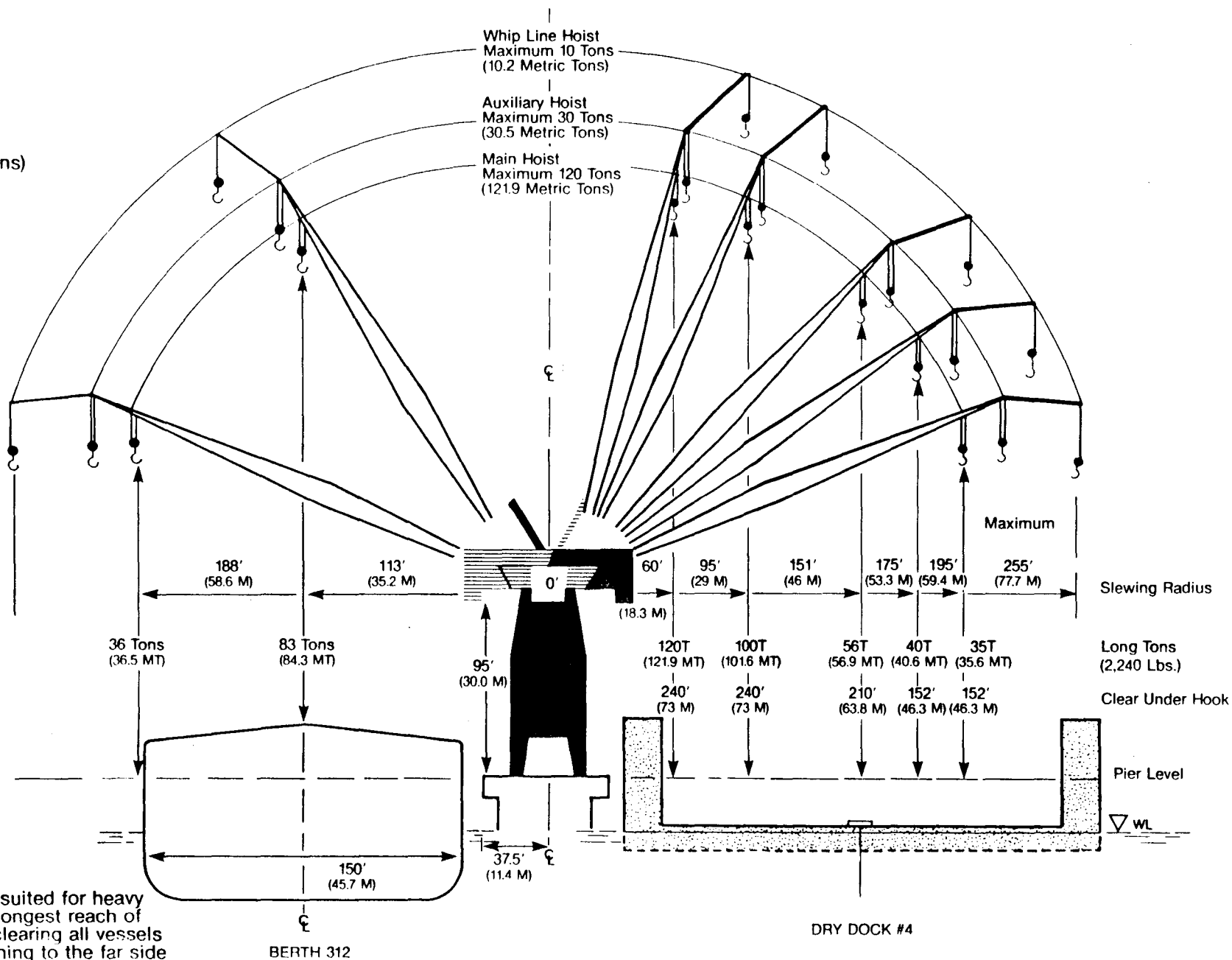
Crane #12 is a medium-duty crane capable of reaching the far side of Dry Dock #4 and vessels at berth. This crane has the ability to lift 10 long tons at maximum reach.



# CRANES

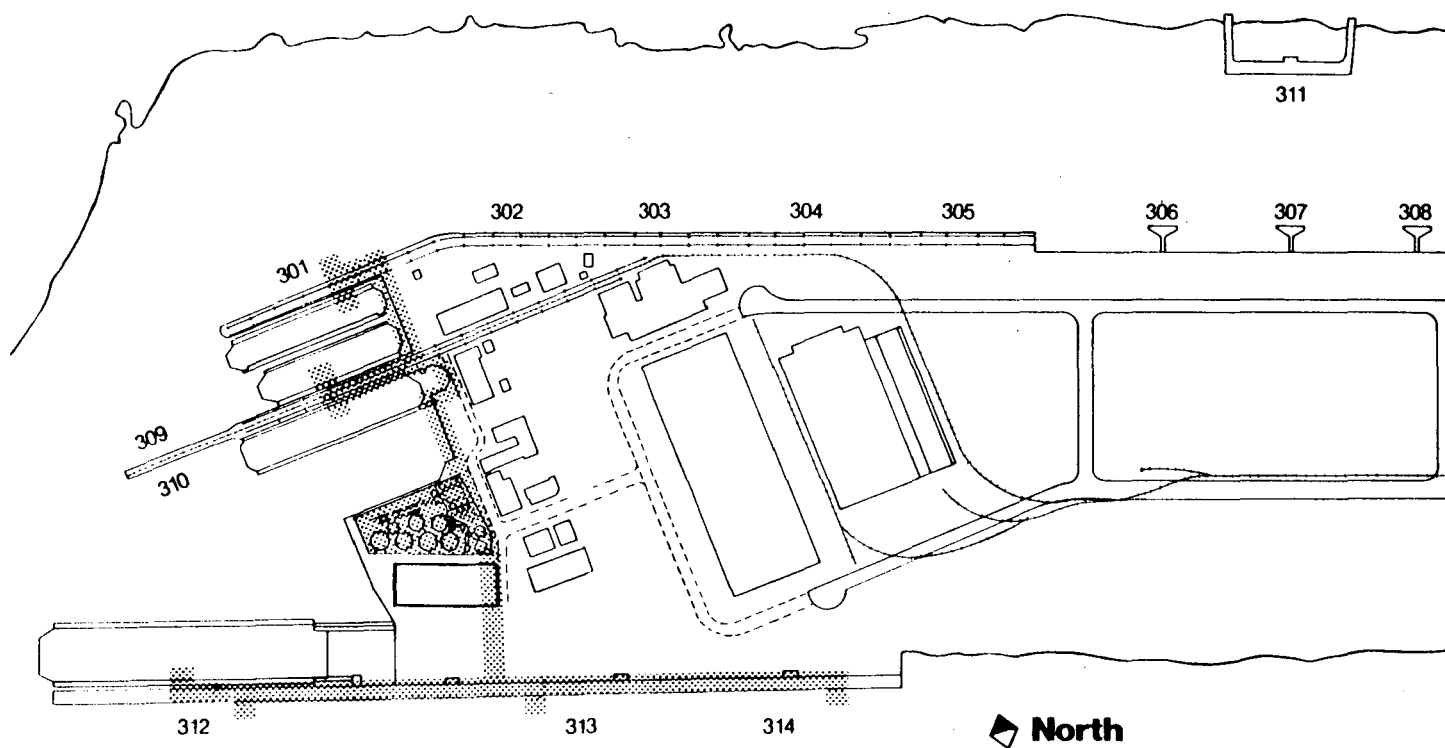
## CRANE #14

Lift Capacity:  
120 Long Tons  
(121.9 Metric Tons)  
Service to:  
Dry Dock #4  
Berths 312-314



Crane #14 is well suited for heavy lifting. It has the longest reach of the SRY cranes, clearing all vessels at berth and reaching to the far side of the dry dock wing wall.

# ENVIRONMENT



More than merely a convenience to shipowners and masters, the Port's ballast water treatment plant provides an excellent means to handle oily waste within local, state, federal and international maritime regulations.

The complete system includes 8 connection stations, receiving lines, holding tanks, a heating plant, decant tanks, separators, processed water storage, oil storage and water quality testing laboratory.

The plant receives oily water slops from tankers (and other vessels). The slops are temporarily stored in the tanks and the oil is extracted by natural separation, addition of chemicals, or steam heating of the material. Heat is applied to a maximum of 165 degrees Fahrenheit. Slops can be received, stored and returned to the ship if desired.

The reclaimed oil is recycled. The disposable water is either pumped through the city sewer system or directly into the river depending on the oil content.

**Requirements:**

City sewer	100 ppm oil or less
River	10 ppm oil or less

The plant is available for operation 24 hours per day, 7 days per week.

# ENVIRONMENT

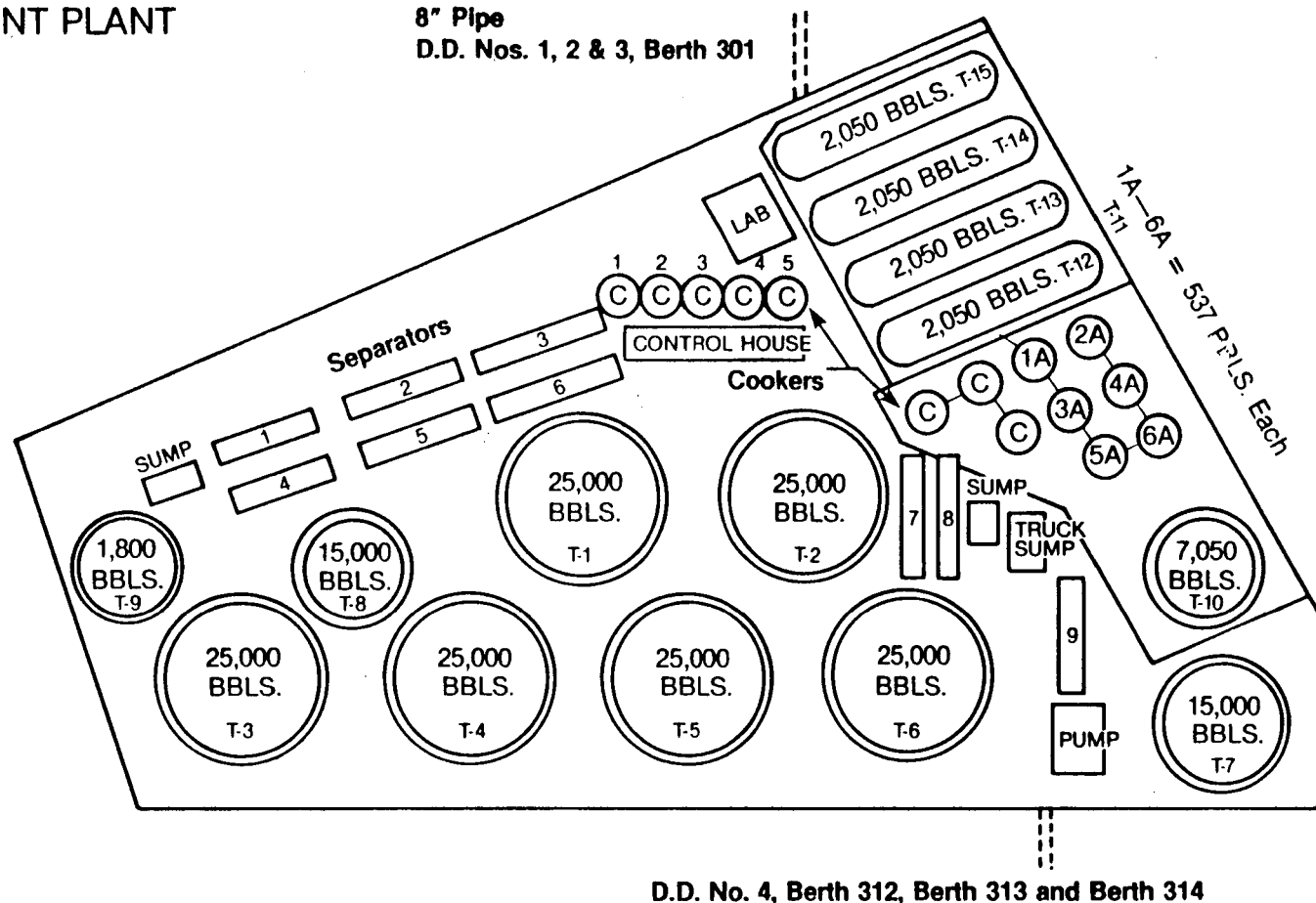
## BALLAST WATER TREATMENT PLANT

**Storage:**  
 Slops 157,050 bbls.  
 Recyclable oil 11,422 bbls.  
 Disposable water 30,000 bbls.  
 Rain water 1,800 bbls.

Maximum capacity 200,272 bbls.  
 Receiving rate from ships: 3,000 bbls./hour

### Ballast Lines:

Location	Size	Maximum Pressure
Dry Docks		
1, 2 & 3	8" line	90 psi
Dry Dock 4	16" line	90 psi
Berth 301	8" line	90 psi
Berth 312	16" line	90 psi
Berth 313	8" line	90 psi
Berth 314	8" line	90 psi



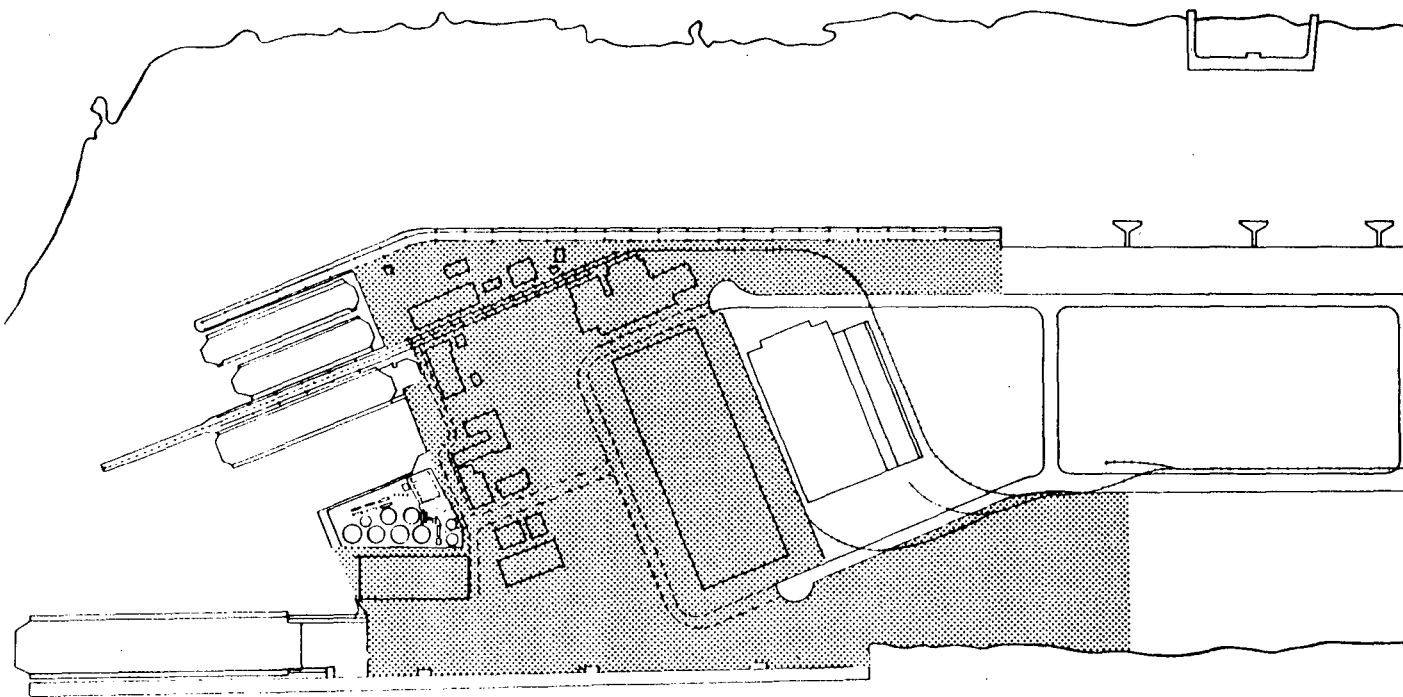
Slops containing cleaning agents that emulsify the oil and water are subject to non-acceptance by the treatment plant. Some detergents prevent the separation of the oil such that the slops cannot be processed through the system and into the sewer.

The following tank cleaners are authorized to be used:

1. Gamlin Clean Brake
2. Chevron Bilge Cleaner 2898
3. Tank Cleaner Degreaser "Magnabrade"
4. Deep Tank O.B. (Dasu International Corp.)

Other cleaners should be approved in advance of their use.

# YARD



North

## Support Services

Complementing the Portland Ship Repair Yard's dry docks and berth space are all the facilities necessary to support a full-service shipyard. Craft shops in the yard include: electrical, sheet metal, paint, pipe, boiler, machine and rigging.

Sophisticated support equipment is available and ready for special jobs, including a 1,500-ton press brake, largest on the West Coast, for bending steel up to 6 inches thick; two large metal lathes (one is a 102-inch Niles which has an 80-ton capacity); a 70-ton-capacity horizontal boring mill with a 13-foot, 6-inch diameter and three-way digital readout to .001 inch, and completely outfitted pipe shops... to name just a few.

Outside the shipyard, but within the metropolitan area, are diversified subcontractors and industries available to support the shipyard. Steel mills, casting foundries, electronics firms, steel fabricators and machine shops manufacture standard and specialized products for the maritime industry and for local, national and international markets as well.



## SECURITY AND SAFETY

### Security

The shipyard facility maintains controlled access and exit of all vehicles and personnel at the main gate. The gate is manned on a 24-hour basis, 7 days per week, by Port of Portland security guards.

The yard is patrolled on a 24-hour basis by qualified dock attendants. Emergency situations are quickly handled by the personnel in the yard or communicated to the main gate where additional assistance is immediately called in.

### Safety

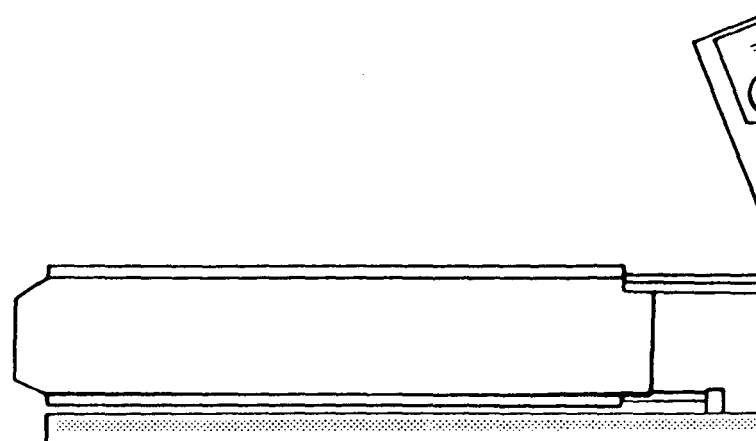
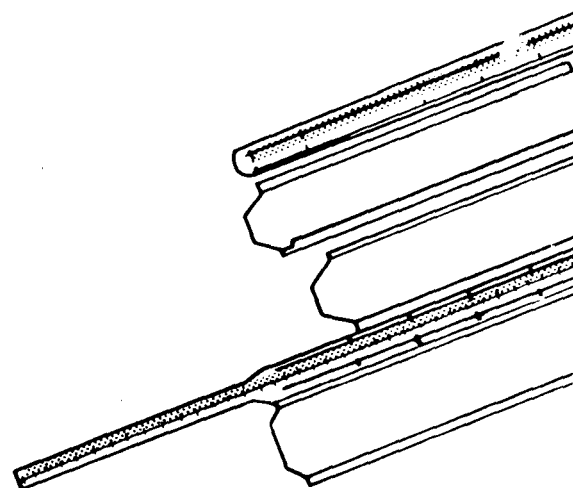
The yard is equipped with a fire and smoke alarm system that signals directly to City of Portland emergency protection services.

Fire lanes are established throughout the yard and maintained clear of material to allow entry of emergency vehicles.

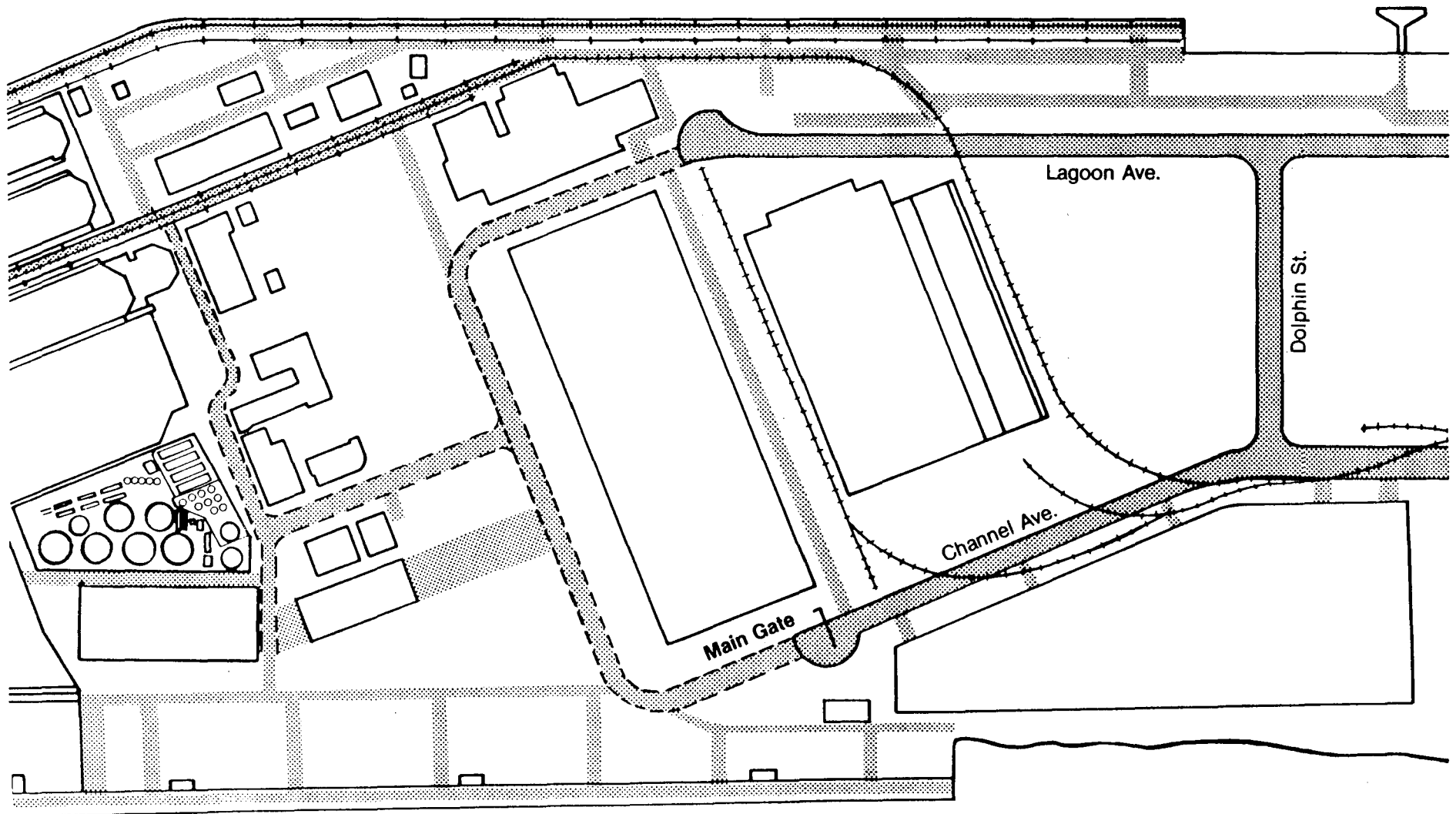
River water pumps at the yard provide fire protection to all dry docks and berths with hookups available from shore and from a fireboat.

In the case of an electrical power loss, an automatic battery operation system provides temporary emergency power. Dual generators are available to supply additional electrical power.

A first aid station at the yard is available for minor injury treatment and initial treatment of severe injury. A complete hospital center is located within 10 minutes driving time from the yard.



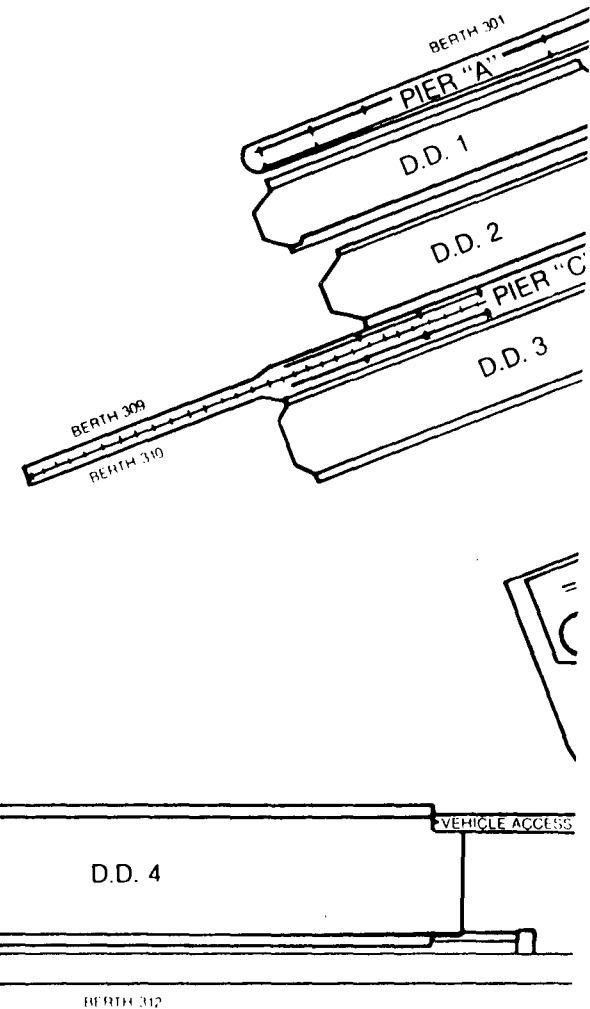
**SECURITY AND FIRE LANES**



## BUILDINGS

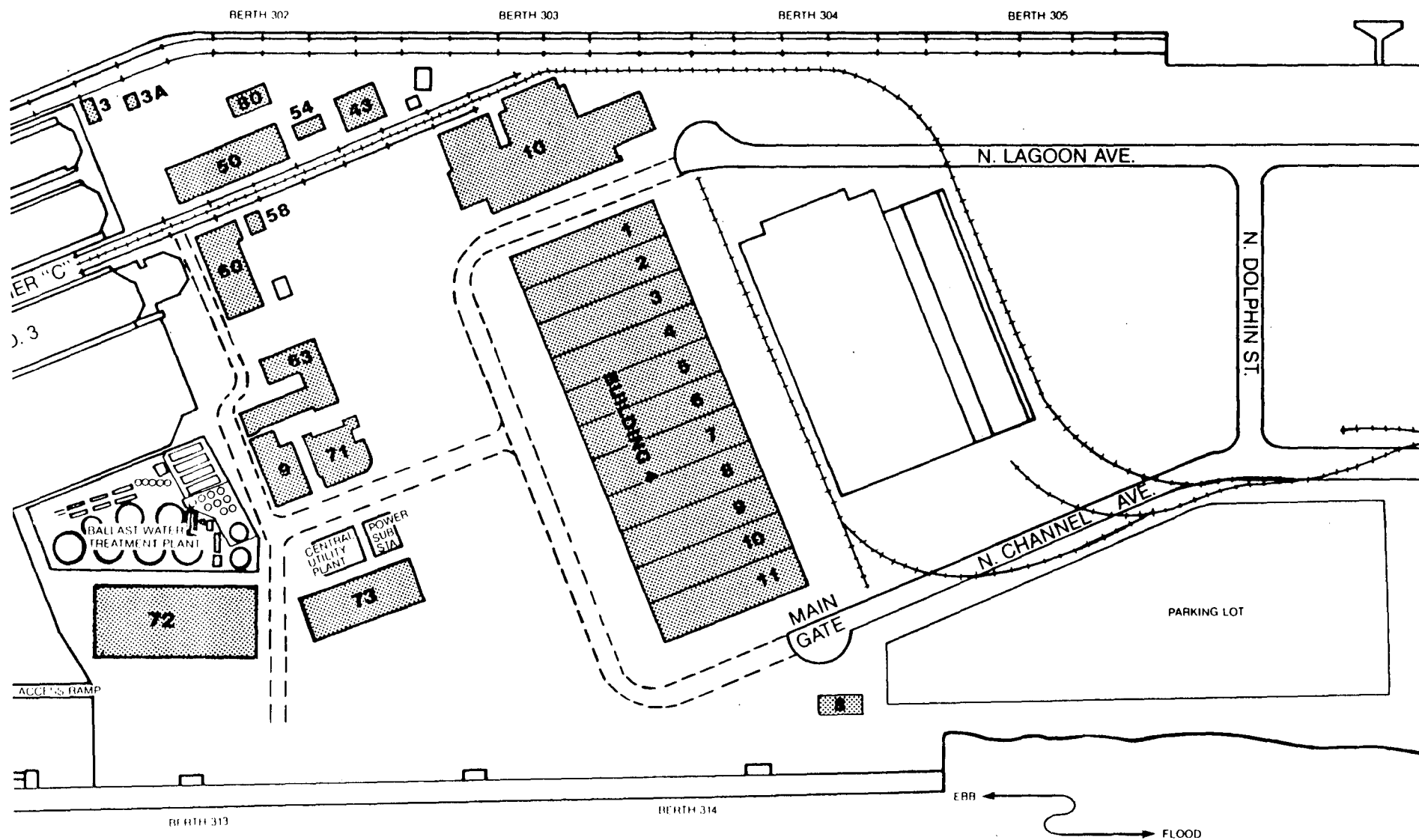
Building	Use	Tenant
3, 3A	Electrical Substations	Port
4: Bay 1	Fabrication Shop	Vacant
Bay 2	Fabrication Shop	NW
Bay 3	Fabrication Shop	NW
Bay 4	Fabrication Shop	NW Fab Div.
Bay 5	Fabrication Shop	NW Fab Div.
Bay 6	Fabrication Shop	NW Fab Div.
Bay 7	Fabrication Shop	WISCO
Bay 8	Fabrication Shop	NW
Bay 9	Fabrication Shop	DSR
Bay 10	Fabrication Shop	DSR
Bay 11	Fabrication Shop	DSR
4	Office/Shop	PSER
4	Office	Zidell
9	Machine Shop	DSR
10	Storage	E.J. Bartells
	Shop	Columbia Asbestos
	Office	C.H. Murphy
	Office/Shop	NW
43	Transportation	NW
50	Office	Don Hudson
	Office	U.S. Navy
50: Bay 1, 3, 4	Shop	DSR
50: Bay 2	Shop	WISCO
50:	Business Office	Port
54: Bay 1	Paint Storage	WISCO
Bay 2, 3, 4	Paint Storage	DSR
58	Boiler Room	Port
60	Electrician and Machinists	Port
	Office/Shops	
70	Office	C&D
71	Office	DSR
72	Bay Building	Under Construction
73	Sandblast Building	Under Construction
80	Office	ABS
	Office	Billstein
	Office/First Aid Room	USCG/NW

North



## BUILDINGS

### SWAN ISLAND LAGOON



WILLAMETTE RIVER

Y4



## Port of Portland

### Portland Ship Repair Yard

A unique partnership exists between the Port of Portland, which owns the ship repair yard, and private ship repair contractors who provide the repair services.

Because of this partnership between private industry and the Port, the Portland Ship Repair Yard today handles about 30 percent of all available West Coast repair business.

Perhaps the most significant asset at the Portland Ship Repair Yard is a qualified, experienced labor force. Contractors draw from a pool of more than 4,000 skilled workers for a full range of both military and commercial contracts. At the yard, ship repair contractors and the Port staff work together, coordinating both labor and equipment resources for maximum service at minimum cost.

The emphasis is on competition and service. Private, competitive ship repair companies all operate within the ship repair yard using common dry dock and berthing facilities. With lower overhead to the contractors, Portland repair costs are among the lowest in the country.

This is the Portland Ship Repair Yard—a full-service facility capable of meeting today's needs; expanded and ready to provide for the future.

### Port of Portland

The Port of Portland is a municipal corporation created by an act of the Oregon State Legislature in 1891; its district encompasses Multnomah, Clackamas and Washington counties.

A nine-member Board of Commissioners governs the Port. The Commission establishes and controls policy. Commissioners are appointed to four-year terms by the Governor of Oregon, subject to confirmation by the Oregon Senate. The commissioners serve without pay.

The main offices are in Portland, Oregon. Representative and regional offices are located in Pasco, Washington; Chicago, Illinois; Washington, D.C.; New York, New York; Tokyo, Japan; Seoul, Korea; Taipei, Taiwan; Manila, Republic of the Philippines, and Singapore.

The Port's objective, as set forth in state law, is to promote the aviation, maritime, shipping, commercial and industrial interests of the Port district. Pursuant to this authority, the Port presently owns and operates Portland International Airport, Portland-Troutdale and

Portland-Hillsboro general aviation airports. In addition, the Port owns and operates the Portland Ship Repair Yard, Portland's public marine terminals, and 1,200 acres of industrial real estate.

# THE CITY OF PORTLAND



# OREGON

## City of Portland

The city of Portland, population 370,000, comprises an area of approximately 90 square miles in northwestern Oregon astride the Willamette River near its confluence with the Columbia River, which forms the boundary between Oregon and Washington. Only seven miles from the Washington/Oregon border, Portland lies at the north end of the Willamette Valley, 110 miles east of the Pacific Ocean and 40 miles west of the Cascade Range. Portland is the largest city in Oregon and the county seat of Multnomah County. The city is the center of commerce, industry, transportation, distribution, supply, finance and services for an immediate metropolitan area embracing a population of more than 1 million and including, within the Portland Standard Metropolitan Statistical Area, Multnomah, Clackamas and Washington counties in Oregon, and Clark County on the north bank of the Columbia River in Washington.

Tourism is regarded as the third-ranking "industry" of Oregon (behind forest products and agricul-

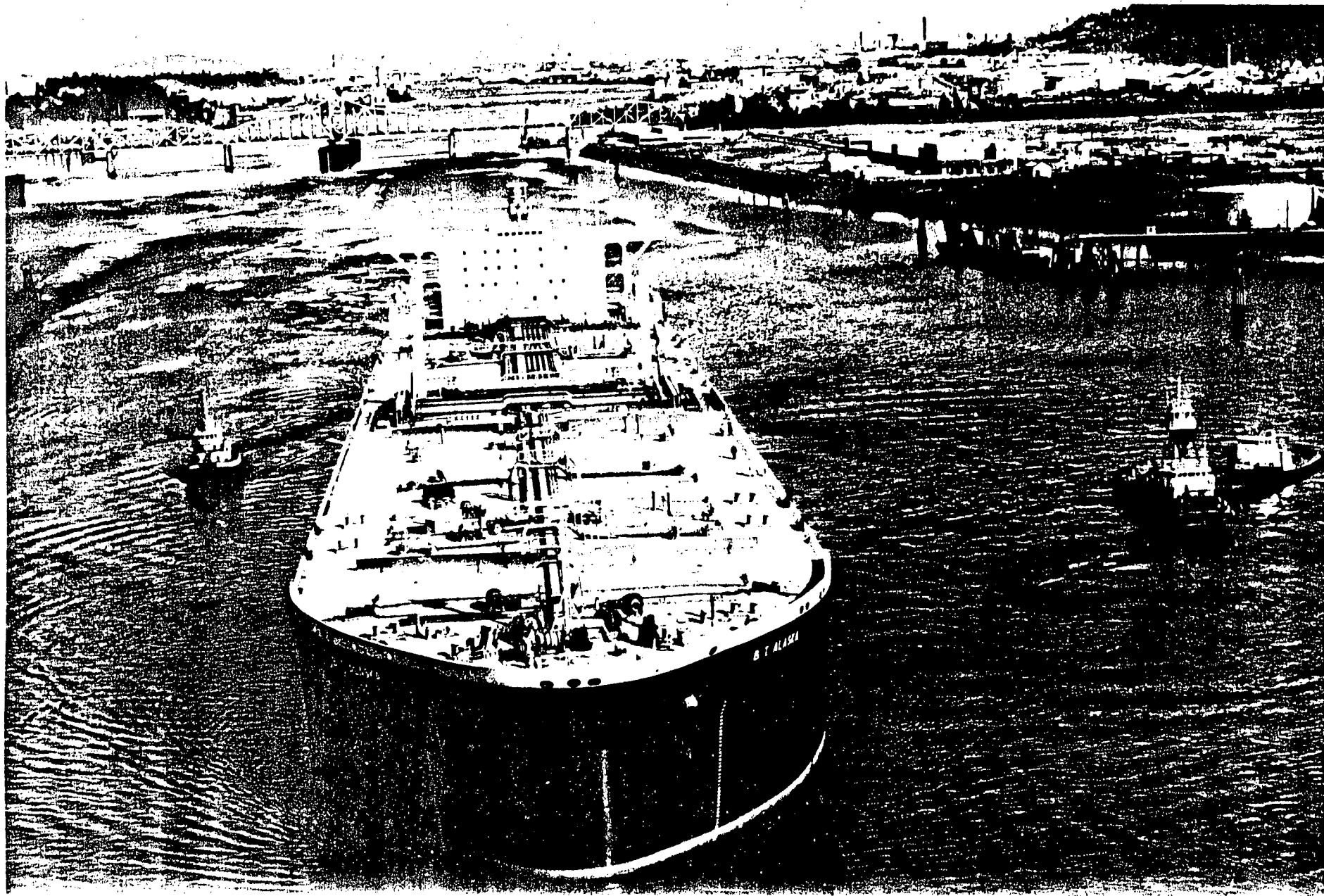


ture/food processing). The Oregon Department of Transportation has estimated more than 10,500,000 visitors from out-of-state come to Oregon each year and spend in excess of \$550 million.

As the largest city and business hub of Oregon, as well as the center of major transportation routes, Portland receives a large share of Oregon's tourist and business visitors. Portland is also a tourist attraction itself with many outstanding cultural and recreational facilities associated with the center of a large metropolitan city, including a civic symphony and associated musical organizations, civic

theater, an opera association, art museum, Oregon Historical Society Museum, Oregon Museum of Science and Industry, Western Forestry Center, International Rose Test Gardens, and a beautiful City of Portland zoo and zoological center. The Memorial Coliseum is a center for conventions, expositions and sports events, including the home games for the Portland Trail Blazers of the National Basketball Association. A prime attraction is the annual week-long Portland Rose Festival. Visitors to the Portland area find accommodations in hotels and motels offering approximately 8,000 rooms.

Portland is also a convenient point of departure for the recreation access of the Pacific Ocean beaches within 100 miles to the west and the forested Cascade mountains and their snow-capped peaks to the east, including 11,235-foot Mt. Hood—one of the world's most climbed mountains—and its world-famous Timberline Lodge 60 miles from Portland. All sorts of outdoor activities—hunting and fishing, snow sports, camping, boating, hiking and mountain climbing—are available within convenient distance of Portland.



The B.T. ALASKA leaves Portland Ship Repair Yard and returns to the Alaskan oil trade route.



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

January 7, 1987

Bill Zavín, President  
Northwest Marine Iron Works  
P.O. Box 3109  
Portland, OR 97208

Dear Bill:

In working through the policy issue raised by WSI's application for a use agreement at PSRY, the attached criteria has been developed by staff and given to the Port Commission for review. As of now, this criteria has not been adopted by the Commission, but they may do so in February.

If you have any comments on the attached draft policy, please contact me so we can use your input in the policy review discussions.

Sincerely,

David N. Neset  
Director, Marine Services

Attachment

75A063

DL 1

INTERESTING

DOCUMENTS

Don

copy 1-9-86



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133978



## CRITERIA FOR QUALIFYING GENERAL CONTRACTORS

### PORTLAND SHIP REPAIR YARD

In the context of the existing Use Agreement approach to granting yard access, the following criteria for qualifying a general contractor should apply:

1. The ability of contractor to perform, including their ability to pay the Port for use of the yard.
2. The capacity of the yard and the intent of the contractor to use the yard on a regular, ongoing basis.
3. The amount of business available to PSRY and whether or not an addition to the contractor base will result in more work coming to PSRY or simply a further division of the existing work.

#### 1. Ability to Perform

- a. Contractors must have sufficient financial resources to fulfill their obligations.
  - (1) The firm must be sufficiently capitalized in relation to its business plan.
  - (2) There needs to be a guarantee that the Port will be paid for the use of the yard, as evidenced by:
    - (a) Committed lines of credit from financial institutions; or
    - (b) By posting a performance bond; or
    - (c) By other financial information sufficient to establish their financial strength.
  - (3) Contractors need to be adequately insured against liability in carrying out the work as evidenced by insurance certificates.
- B. Contractors need to have equipment available to perform ship repair work. Evidence should be submitted in the form of equipment plans.
- C. Contractors need to have key personnel available to perform quality work and a business structure and plan that appear to be workable. Evidence should be provided in the form of:
  - (1) Articles of incorporation.
  - (2) Manpower plans.

(3) Business plans.

(4) Evidence of customer interest.

- D. Contractors should have an absence of any history of breaching contractual obligations to public and private contracting agencies.

2. Yard Capacity

In addition to reviewing contractors actual capabilities, we will limit the number of general contractors when we lack the physical facilities to accommodate them. The limiting criteria in this area would be:

- A. Availability of time on the dry docks and at the berths to do the contracted work.
- B. Availability of backup area and space for fabrication and other work.
- C. Contractors should be limited to those who will make a commitment to bring work to the yard, and would restrict access by contractors who would use the yard only for occasional business.

Based on experience, we think that we could accommodate three to four general contractors at our facilities on an ongoing basis, depending on the level of ship repair activity and the degree of contractor specialization.

3. Available Business

Our current assessment of the available market is about \$500,000,000 per year. A 35 percent market share would produce a contractor volume of \$175,000,000. Recent contractor business has been running at an annual rate of about \$150,000,000, suggesting a growth potential. This, coupled with unused yard capacity, indicates that we can, indeed, grow the volume of work done in the yard.

It is not appropriate to consider criteria related to controlling or restricting competition in the yard based on the existing Use Agreement.

In the future, we shall explore an arrangement beyond the existing Use Agreement which may offer some form of semiexclusive agreement in return for financial guarantees from contractors.

01/07/87  
5642d  
01M011



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

October 30, 1986

Mr. Bill Zavín, President  
Northwest Marine Iron Works  
5555 N Channel Ave., Bldg. 2  
Portland, OR 97217

## PORT REQUIREMENTS FOR CONTINUING COOPERATION

The reorganization of Northwest underscores the need for continued regular cooperation and candid communication if the Port is to play the positive and supportive role identified by you in our meeting with Lloyd Anderson on Tuesday. The purpose of this letter is to confirm once again the expectations relating to continued operation in the yard.

The following represents the agreement for continued use as it has evolved over the last several weeks, culminating with the meeting on Tuesday.

- o Regular, weekly meetings must be held between the Port and Northwest for the purpose of exchanging information. The meetings must be held as scheduled and attended by officials of Northwest authorized to speak candidly on topics of concern to the Port. As agreed, these meetings were to be at 3:00 p.m. each Friday at the offices of Northwest, with the first meeting being next Friday, November 7, 1986. The Port proposes that these meetings be at 1:00 p.m. in lieu of 3:00 p.m. Per our agreement, PSRY will provide an invoice of amounts owed from the close of business the previous Wednesday through the close of business the current Wednesday on the Thursday preceeding the weekly meeting. Northwest will be expected to provide payment for amounts due at the start of each Friday meeting.



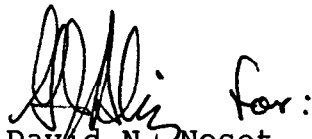
Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133981

- o Northwest must immediately initiate a process, including the allocation of necessary accounting staff expertise and time, to provide the Port with a full accounting of amounts that may be due the Port through the Use Agreement, Tariff, or other business transactions as a result of Northwest's operations. As provided in the Use Agreement, Northwest must authorize appropriate Port representatives full access to records of account necessary to verify the accuracy and completeness of such accounting. Northwest must show regular, daily progress towards completion of this task and provide information fully satisfactory to the Port no later than November 30, 1986. As discussed, the Port is willing to review documents submitted to the bank as a first step.
- o Northwest must pay for services and rent on a weekly basis including tariff charges, utilities, and estimated use fees. Estimated use fees will be calculated on the assumption that Tariff and Use Fee charges together will constitute 12% of gross billings to customers and use fee equals 5.7%, therefore:

Gross Bill x .063	=	Tariff Charges
OR Gross Bill	=	Tariff Charges / .063
And Use Fee	=	Gross Bill x .057

Reconciliation of estimated use fees and actual will be accomplished within seven days of receipt of payment from vessel owner by Northwest. Disputed amounts will be paid by Northwest upon billing; Port will refund appropriate amounts when findings of reconciliation or review process show amounts due to Northwest within seven days of resolution. By act of declining to pay the Port according to these terms, Northwest will cause termination of PSRY's services.

 for:  
David N. Neset, Director of Marine Services  
Port of Portland

/sbcr

RON WALQUIST

---

CONFIDENTIAL

---



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

October 31, 1986

Northwest Marine Iron Works  
Property Tax Department  
P.O. Box 3109  
Portland, OR 97208

## PROPERTY TAXES

Multnomah County property taxes for 1986-87 are due on November 15, 1986. Enclosed is a copy of the tax bill relating to the Port of Portland property which you are leasing. According to the terms of your lease, you are to pay this tax. To be assured of your discount, please send your payment to arrive at the Port of Portland by November 12, so we may have time to process your payment and forward your check to Multnomah County.

<u>Tax Account No.</u>	<u>Amount Due if Paid By November 15, 1986</u>
94117-0810	\$ 388.48 ✓
94117-0812	190.23 ✓
94117-1300	5,883.40 ✓
94117-1332 ✓	3,879.40 ✓
94117-1339 ✓	466.17 ✓
	<u>\$10,807.68</u>

Please make your check payable to:

Multnomah County Tax Collector



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133984

October 31, 1986  
Page 2

Please send your check to:

Port of Portland  
c/o Carol Krueger  
P.O. Box 3529  
Portland, OR 97208

We will forward your check to the County Tax Office after noting the payment on our records.



Carol Krueger  
Accountant

Enclosure

53K404

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY

REAL  
Property Taxes

001

R-94117-0810

Property Description (Tax Lot Number)

Assessed Value	400.49
Ad Valorem Tax	0.00
Total Special Assessments	400.49
Total Tax and Assessments	0.00
LESS PAYMENT BY STATE OF OREGON	400.49
Total Amount AFTER STATE PAYMENT	

X 1941170810

X 0000013350

X 0000026166

X 0000038848 00

DO NOT  
WRITE IN  
THIS AREA

861

RETURNED CHECK WILL INCUR A SERVICE CHARGE

Detach Here

Return this stub with your payment. Use reverse side with return envelope.

Enter Amount Paid This Statement

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
  
REAL  
Property Taxes

Code Area  
001

Account Number  
R-94117-0810

Property Description (Tax Lot Number)

TAX	Assessed Value	Last Year	This Year
LAND VALUE		2,600	2,500
BUILDING VALUE		12,700	12,000
TOTAL VALUE		15,300	14,500
NET ASSESS VAL		15,300	14,500
TAX RATE/\$1000		25.68	27.62
PROPERTY TAXES		392.91	400.49
Current Taxes Levied By	Tax Rate	%	Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

PORT OF PORTLAND (LEASED)  
NORTHWEST MARINE IRON  
P O BOX 3529  
PORTLAND, OREGON 97208

PORT OF PORTLAND	1.6	6.41
CITY OF PORTLAND	26.0	104.13
EDUCATION SERVICE DIST	4.7	18.82
PORTLAND SCHOOL DIST	51.4	205.85
PORTLAND COMMUNITY COLL	3.1	12.42
METRO SERVICE DIST (ZOO)	.6	2.40
PORT BONDS	.0	0.00
MULTNOMAH COUNTY	12.6	50.46

LEGAL DESCRIPTION  
SECTION 17 1 N 1 E LOT BLOCK  
TL# 81 0.04 ACRES  
SEE SUB-ACCTS

XXXXXXXXXXXXXXXXXX

Delinquent Taxes

\*\*\*\*\*

Foreclosure proceedings will be  
started after July 15 on tax  
property accounts with an unpaid  
paid balance for any tax year  
marked with an asterisk (\*)

Property Tax Totals 400.49  
LESS PAYMENT BY STATE OF OREGON 0.00

Total Taxes and Assessments 400.49

PLEASE  
MAKE  
PAYMENT  
TO: (For tax information call (503) 246-3326)

\* READ PAYMENT INSTRUCTIONS ON REVERSE

Discount Allowed*	Pay By	One of the Following
12.01	NOV. 15	388.48
5.34	NOV. 15	261.66
1.3	NOV. 15	133.50

058977

NWMAR133986



OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY

001

R-94117-0812

Property Description (Tax Lot Number)

Ad Valorem Tax

196.1

Total Special Assessments

0.00

Total Tax and Assessments

196.1

LESS PAYMENT BY STATE OF OREGON

0.00

Total Amount AFTER STATE PAYMENT

196.1

REAL  
Property Taxes

X 1941170812

X 0000006537

X 0000012813

X 0000019023

07

X

DO NOT  
WRITE IN  
THIS AREA

861

RETURNED CHECK WILL INCUR A SERVICE CHARGE

Detach here

Return this stub with your payment. Use reverse side with return envelope.

Enter Amount Paid This Statement

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
  
REAL  
Property Taxes

Code Area

001

Account Number

R-94117-0812

Property Description (Tax Lot Number)

TAX  
C  
O  
M  
P  
A  
R  
I  
S  
O  
N

Assessed Value

Last Year

This Year

LAND VALUE

1,300

1,200

BUILDING VALUE

6,300

5,900

TOTAL VALUE

7,600

7,100

NET ASSESS VAL

7,600

7,100

TAX RATE/\$1000

25.68

27.6

PROPERTY TAXES

195.17

196.1

Current Taxes Levied By

Tax Rate

%

Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

PORT OF PORTLAND (LEASED  
NORTHWEST MARINE IRON  
P O BOX 3529  
PORTLAND, OREGON 97208

PORT OF PORTLAND	1.6	3.14
CITY OF PORTLAND	26.0	50.99
EDUCATION SERVICE DIST	4.7	9.2
PORTLAND SCHOOL DIST	51.4	100.80
PORTLAND COMMUNITY COLL	3.1	6.08
METRO SERVICE DIST (ZOO)	.6	1.18
PORT BONDS	.0	0.00
MULTNOMAH COUNTY	12.6	24.70

LEGAL DESCRIPTION  
SECTION 17 1 N 1 E  
TL# 81 0.04 ACRES  
SEE MAIN ACCT -0810

LOT BLOCK

Delinquent Taxes

XXXXXXXXXXXXXXXXXX

\*\*\*\*\*

Foreclosure proceedings will  
start after July 15 on  
property accounts with an  
unpaid balance for any tax year  
marked with an asterisk (\*)

PLEASE  
MAKE  
PAYMENT  
TO:  
Multnomah County  
P.O. Box 2716  
Portland, Oregon 97202-0026  
(For tax information, call (503) 248-3326)

\* READ PAYMENT INSTRUCTIONS ON REVERSE

Property Tax Totals

196.11

LESS PAYMENT BY STATE OF OREGON

0.00

Total Taxes and Assessments

196.11

Amount Allowed\*

Pay By

One of the following

FULL PAYMENT

5.88

NOV. 15

190.23

20% DOWN

2.61

NOV. 15

128.11

10% DOWN

NOV. 15

65.37

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
REAL  
Property Taxes

001

R-94117-1300

Property Description (Tax Lot Number)

Assessed Value

Ad Valorem Tax

Total Special Assessments

Total Tax and Assessments

LESS PAYMENT BY STATE OF OREGON

Total Amount AFTER STATE PAYMENT

219,60

6,065.36

0.00

6,065.36

0.00

6,065.36

X 1941171300

X 0000202179

X 0000396271

X 0000588340

02

X DO NOT  
WRITE IN  
THIS AREA

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Include this stub with your payment. Use reverse side with return envelope.

Return this stub with your payment. Use reverse side with return envelope.

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
REAL  
Property Taxes

Code Area

001

Account Number

R-94117-1300

Property Description (Tax Lot Number)

T  
A  
X  
C  
O  
M  
P  
A  
R  
I  
S  
O  
N

Assessed Value

Last Year

This Year

LAND VALUE

51,500

49,900

BUILDING VALUE

175,000

169,700

TOTAL VALUE

226,500

219,600

NET ASSESS VAL

226,500

219,600

TAX RATE/\$1000

25.68

27.62

PROPERTY TAXES

5,816.52

6,065.36

Current Tax Levied By

Tax rate

%

Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

PORT OF PORTLAND (LEASED  
NORTHWEST MARINE IRON WORKS  
P O BOX 3529  
PORTLAND, OREGON 97208

PORT OF PORTLAND 1.6 97.00  
CITY OF PORTLAND 26.0 1,576.99  
EDUCATION SERVICE DIST 4.7 285.07  
PORTLAND SCHOOL DIST 51.4 3,117.60  
PORTLAND COMMUNITY COLL 3.1 188.00  
METRO SERVICE DIST (ZOO) .6 36.39  
PORT BONDS .0 0.00  
MULTNOMAH COUNTY 12.6 764.22

LEGAL DESCRIPTION  
SECTION 17 IN 1E  
TL 130 0.38 ACRES

LOT BLOCK

Property Tax Totals

6,065.36

LESS PAYMENT BY STATE OF OREGON

0.00

Delinquent Taxes

XXXXXXXXXXXXXXXXXX

1 \*\*\*\*\*

Foreclosure proceedings will be  
started after July 15 on all  
property accounts with an un-  
paid balance for any tax year  
marked with an asterisk (\*)

P  
R  
O  
P  
E  
R  
T  
Y  
T  
A  
X  
E  
S

Total Tax and Assessment

6,065.36

PLEASE  
MAKE  
PAYMENT  
TO:  
Tax Collector, Multnomah County  
P.O. Box 2710  
Portland, Oregon 97272-0029  
(For tax information call (503) 248-3336)

\* READ PAYMENT INSTRUCTIONS ON REVERSE

Discount Allowed\*

Pay By

Pay  
One of Three Amounts

FULL - 3%

181.96

NOV. 15

5,883.40

2/3 - 2%

80.87

NOV. 15

3,962.71

1/3 - None

NOV. 15

2,021.79

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
  
REAL  
Property Taxes

001

R-94117-1332

Property Description (Tax Lot Number)

Assessed Value 144,800  
Add Valorem Tax 3,999.38  
Total Special Assessments 0.00  
Total Tax and Assessments 3,999.38  
LESS PAYMENT BY STATE OF OREGON 0.00  
Total Amount AFTER STATE PAYMENT 3,999.38

X 1941171332

X 0000133313

X 0000261293

X 0000387940 08

DO NOT  
WRITE IN  
THIS AREA

861

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Enter amount Paid This Statement

OREGON  
Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
  
REAL  
Property Taxes

Code Area  
001

Account Number  
R-94117-1332

Property Description (Tax Lot Number)

TAX COMPARISON	Assessed Value	Last Year	This Year
	LAND VALUE	23,000	22,300
BUILDING VALUE	129,500	122,500	
TOTAL VALUE	152,500	144,800	
NET ASSESS VAL	152,500	144,800	
TAX RATE/\$1000	25.68	27.62	
PROPERTY TAXES	3,916.20	3,999.38	
Current Rates Tested By		Tax date	% Tax Amount

YOUR CANCELLED CHECK IS YOUR RECEIPT  
RETURNED CHECK WILL INCUR A SERVICE CHARGE

PORT OF PORTLAND (LEASED)  
N W MARINE IRON WORKS  
P O BOX 3529  
PORTLAND, OREGON 97208

PORT OF PORTLAND	1.6	63.99
CITY OF PORTLAND	26.0	1,039.81
EDUCATION SERVICE DIST	4.7	187.97
PORTLAND SCHOOL DIST	51.4	2,055.68
PORTLAND COMMUNITY COLL	3.1	123.98
METRO SERVICE DIST (ZOO)	.6	24.00
PORT BONDS	.0	0.00
MULTNOMAH COUNTY	12.6	503.92

LEGAL DESCRIPTION  
SECTION 17 IN 1E  
TL 133  
SEE NONTAX ACCT -1330

LOT BLOCK

Property Tax Totals 3,999.38  
LESS PAYMENT BY STATE OF OREGON 0.00

XXXXXXXXXXXXXXXXXXXX

Delinquent Taxes

Foreclosure proceedings will be  
started after July 15 on real  
property accounts with an unpaid  
balance for an amount marked  
with an asterisk (\*)

\*\*\*\*\*

PLEASE  
MAKE  
PAYMENT  
TO:  
Multnomah County  
P.O. Box 100  
Portland, Oregon 97208-0100  
(For tax information, call (503) 248-3326)

\* READ PAYMENT INSTRUCTIONS ON REVERSE

Total Taxes and Assessments		3,999.38	
Amount Allowed*	Pay By	Amount Paid	
119.98	NOV. 15	3,879.40	
53.33	NOV. 15	2,612.93	
18-14-00	NOV. 15	1,333.13	

Property Taxes For Fiscal  
Year July 1, 1986 to  
June 30, 1987  
MULTNOMAH  
COUNTY  
  
REAL  
Property Taxes

001

R-94117-1339

Property Description (Tax Lot Number)

Ad Valorem Tax	480.59
Total Special Assessments	0.00
Total Tax and Assessments	480.59
LESS PAYMENT BY STATE OF OREGON	0.00
Total Amount AFTER STATE PAYMENT	480.59

X 1941171339

X 0000016020

X 0000031399

X 0000046617 03

X DO NOT  
WRITE IN  
THIS AREA

861

RETURNED CHECK WILL INCUR A SERVICE CHARGE

Oregon Property Taxes For Fiscal Year July 1, 1986 to June 30, 1987 MULTNOMAH COUNTY  REAL Property Taxes		Code Area 001	Account Number R-94117-1339	Property Description (Tax Lot Number)		Enter Amount Paid This Statement	
YOUR CANCELLED CHECK IS YOUR RECEIPT RETURNED CHECK WILL INCUR A SERVICE CHARGE				PORT OF PORTLAND (LEASED) N W MARINE IRON P O BOX 3529 PORTLAND, OREGON 97208		TAX COMPARISON	
LEGAL DESCRIPTION SECTION 17 IN 1E TL 133 SEE NONTAX ACCT -1330				LOT BLOCK		Assessed Value Last Year This Year	
XXXXXXXXXXXXXXXXXX				PORT OF PORTLAND CITY OF PORTLAND EDUCATION SERVICE DIST PORTLAND SCHOOL DIST PORTLAND COMMUNITY COLL METRO SERVICE DIST (ZOO) PORT BONDS MULTNOMAH COUNTY		18,000 17,400 18,000 17,400 18,000 17,400 25.68 27.62 462.24 480.59	
Delinquent Taxes				*****		Current Taxes Levied By Tax Rate %	
Foreclosure proceedings will be started after July 15 on real property accounts with an unpaid balance for any tax year marked with an asterisk (*)				*****		Tax Amount	
PLEASE MAKE PAYMENT TO:				Tax Collector, Multnomah County P.O. Box 2716 Portland, Oregon 97272-0029 (For tax information call (503) 248-3326)		Property Tax Totals 480.59 LESS PAYMENT BY STATE OF OREGON 0.00	
* READ PAYMENT INSTRUCTIONS ON REVERSE				Total Taxes and Assessments		480.59	
				Discount Allowed*		Pay By	
				14.42		NOV. 15	
				6.41		NOV. 15	
						NOV. 15	

058998

NWMAR133990



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

October 28, 1986

Bill Zavín, President  
Northwest Marine Works, Inc.  
P.O. Box 3109  
Portland, OR 97208

## PORT OF PORTLAND SHIP REPAIR YARD TARIFF AND USE FEE AGREEMENT PAYMENTS

Dear Bill:

This is to confirm the agreement which resulted from the meeting between you and Denny West on October 1, 1986, and the follow-up meeting on October 2, relating to the above referenced matters, and, for the record, to trace the performance of Northwest Marine Iron Works on the agreement.

As you are aware, prior to October 1, 1986, the ship repair yard staff had numerous and frequent discussions with your staff in an attempt to resolve delinquent payments and establish a plan for continued business operations and future payments to the Port under the agreements with Northwest. These resulted in the meetings on October 1 and 2, 1986, at which the following was agreed:

- 1) Northwest proposed and the Port agreed that you would be placed on a cash basis as of October 1, 1986, and all work performed in the ship repair yard after that date would be paid on a weekly basis. It is the Port's understanding that current payments include interest on accumulated debt, assessed after September 30, 1986.
- 2) Northwest would provide written authorization for the Port to obtain information from First Interstate Bank on Northwest's line of credit and other data outlined in Vance Noriega's letter of September 24.
- 3) Northwest would provide updated financial statements, including, balance sheets, income statements, schedule of accounts receivable, schedule of accounts payable, and other financial information requested by the Port for June, July, and August no later than mid-October.



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133991

Bill Zavín  
October 28, 1986  
Page 2

- 4) The Port would be provided a "work out plan" which would detail the method by which Northwest proposed to maintain the current charges as well as retire the large accumulated debt.
- 5) Northwest would meet with Port personnel at 3:00 p.m. every Friday to provide up-dated and current information on the status of Northwest.

Thus far, Northwest has not paid all current billings and interest. It has also failed to provide any information upon which the Port can rationally base its decisions. Furthermore, Northwest representatives did not meet with the Port at the scheduled Friday meeting on October 24, 1986, nor did Northwest make the weekly payment on that date.

Specifically, the Port has not received the credit line information, nor any information, from Northwest which indicates there is some business plan anticipating continued operation. Therefore, you have left the Port no alternative but to demand a meeting with me and designated staff from the Port within 48 hours of receipt of this letter. At this meeting, Northwest shall provide the Port with specific information on the credit line and terms granted by the bank and a business plan for future operations. The Port will also discuss with you at that time, a schedule for receipt of the remaining financial information the Port must receive.

It is the Port's desire to continue to have a working relationship with Northwest Marine. However, this continued relationship must be based upon an open and continued flow of current financial information. We must have clear, factually based reasons for further provision of services without payment in advance and for continued patience regarding the outstanding debt. If Northwest fails to meet the above terms within the stated 48 hours, the Port will have no alternative but to terminate the use agreement and exclude Northwest from operating in the ship repair yard.

Very truly yours,



Lloyd Anderson  
Executive Director

4724d

MAY 28 1987

N.W. MARINE



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

FE  
Po. 27

May 26, 1987

Northwest Marine Iron Works  
5555 N. Channel Ave. Bldg. 2  
Portland OR 97217

## PSRY FINANCIAL REPORT

Enclosed is a copy of the PSRY Gain and Loss Statement for the month of April 1987. We have included graphs to illustrate monthly data and to compare monthly financial performance to budget, and the averages over the past three (Q), six (S), and twelve (A) month periods.

This month's data is highlighted by the booking of revenues and an offsetting expense as a part of the NMIW reorganization. Other than this, the report continues to reflect the slow down in business. Budgets have been adjusted to reflect anticipated results for this fiscal year. In order to provide comparable data, the amounts reserved for the NMIW reorganization are deleted from the attached graphs. To break even on a cash basis this year, PSRY needs to produce \$350,000 per month in Contribution before Depreciation.

Please call Guy Alvis at 231-5568 if you have questions.

David N. Neset, Director  
Marine Services  
Portland Ship Repair Yard

/kw

Enclosures



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133993

MR413 RUN 5/18/87

FOR MONTH OF APR 1987

## COMBINED SHIP REPAIR YARD

ACCT NO.	DESCRIPTION	-----APR 1987-----			-----Y E A R T O D A T E-----			BUDGETED THIS FY
		ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	VARIANCE	
REVENUES								
640	--SERVICE REVENUE-----	273,653	410,091	(136,438)	4,390,632	4,100,910	289,722	4,921,200
680	--RENTAL AND CONCESSIONS-----	71,374	133,114	(61,740)	1,425,270	1,331,140	94,130	1,697,400
720	--PSRY REVENUE-----	300,359	502,131	(201,772)	4,504,894	5,021,310	(516,416)	6,025,600
730	--PSRY USE AGREEMENT REVENUE--	1,035,782	226,657	809,125	4,414,322	2,266,570	2,147,752	2,719,900
750	--OTHER REVENUE-----	40,473	17,691	22,782	294,355	176,910	117,445	212,300
790	--POLICY ADJUSTMENTS-----	-2,121	0	(2,121)	-2,013	0	(2,013)	0
795	--REBATES, REFUNDS & DISCOUNTS-	-27,064	-114,816	87,752	-931,660	-1,148,160	216,500	-1,377,800
TOTAL REVENUES		1,692,456	1,174,868	517,588	14,095,800	11,748,680	2,347,120	14,098,600
PERSONAL SERVICES, MATERIALS & SERVICES								
800	--ADMINISTRATIVE LABOR-----	32,889	38,649	5,760	383,529	386,490	2,961	463,800
805	--OPERATING LABOR-----	121,734	166,418	44,684	1,604,674	1,664,180	59,506	1,997,200
815	--MAINTENANCE LABOR-----	77,678	86,662	8,984	817,889	866,620	48,731	1,040,200
820	--ACCRUED LABOR-----	35,874	0	(35,874)	-42,508	0	42,508	0
827	--OTHER PAYROLL EXPENSE-----	14,867	14,575	(292)	196,022	145,750	(50,272)	174,900
TOTAL PERSONAL SERVICES		283,042	306,304	23,262	2,959,605	3,063,040	103,435	3,676,100
830	--MATERIALS AND SUPPLIES-----	71,587	46,563	(25,024)	599,950	465,630	(134,320)	558,900
850	--EQUIP. FUEL AND LUB.-----	4,704	6,790	2,086	55,197	67,900	12,703	81,500
860	--UTILITIES-----	157,135	175,073	17,938	1,888,648	1,750,730	(137,918)	2,100,900
880	--OUTSIDE SERVICES-----	114,402	76,594	(37,808)	1,172,955	765,940	(407,015)	919,900
930	--FIXED CHARGES-----	92,070	54,274	(37,796)	558,588	542,740	(15,848)	651,300
950	--ALLOCATED EXPENSES-----	0	1,142	1,142	9,846	11,420	1,574	13,700
960	--MANAGEMENT & TRAVEL EXPENSES-	8,056	5,395	(2,661)	71,224	53,950	(17,274)	64,800
990	--MISCELLANEOUS EXPENSES-----	860,304	133,108	(727,196)	2,386,030	1,331,080	(1,054,950)	1,597,300
TOTAL MATERIALS AND SERVICES		1,308,257	498,939	(809,318)	6,742,438	4,989,390	(1,753,048)	5,987,700
TOTAL PERS. SERV, MAT & SERV EXCL DEPR		1,591,298	805,243	(786,055)	9,702,043	8,052,430	(1,649,613)	9,663,800
DIRECT TRANSFERS								
500	--SERVICES RECEIVED FROM-----	18,879	26,378	7,499	262,109	263,780	1,671	316,600
560	--SERVICES RECEIVED FROM-----	0	0	0	0	0	0	0
SERVICES RECEIVED		18,879	26,378	7,499	262,109	263,780	1,671	316,600
570	--SERVICES PROVIDED FOR-----	-285	-600	(315)	-4,760	-6,000	(1,240)	-7,200
SERVICES PROVIDED		-285	-600	(315)	-4,760	-6,000	(1,240)	-7,200
580	--CAPITALIZED COSTS FOR-----	-61,692	-47,915	14,377	-439,268	-473,150	(33,881)	-567,800



MR413 RUN 5/18/87

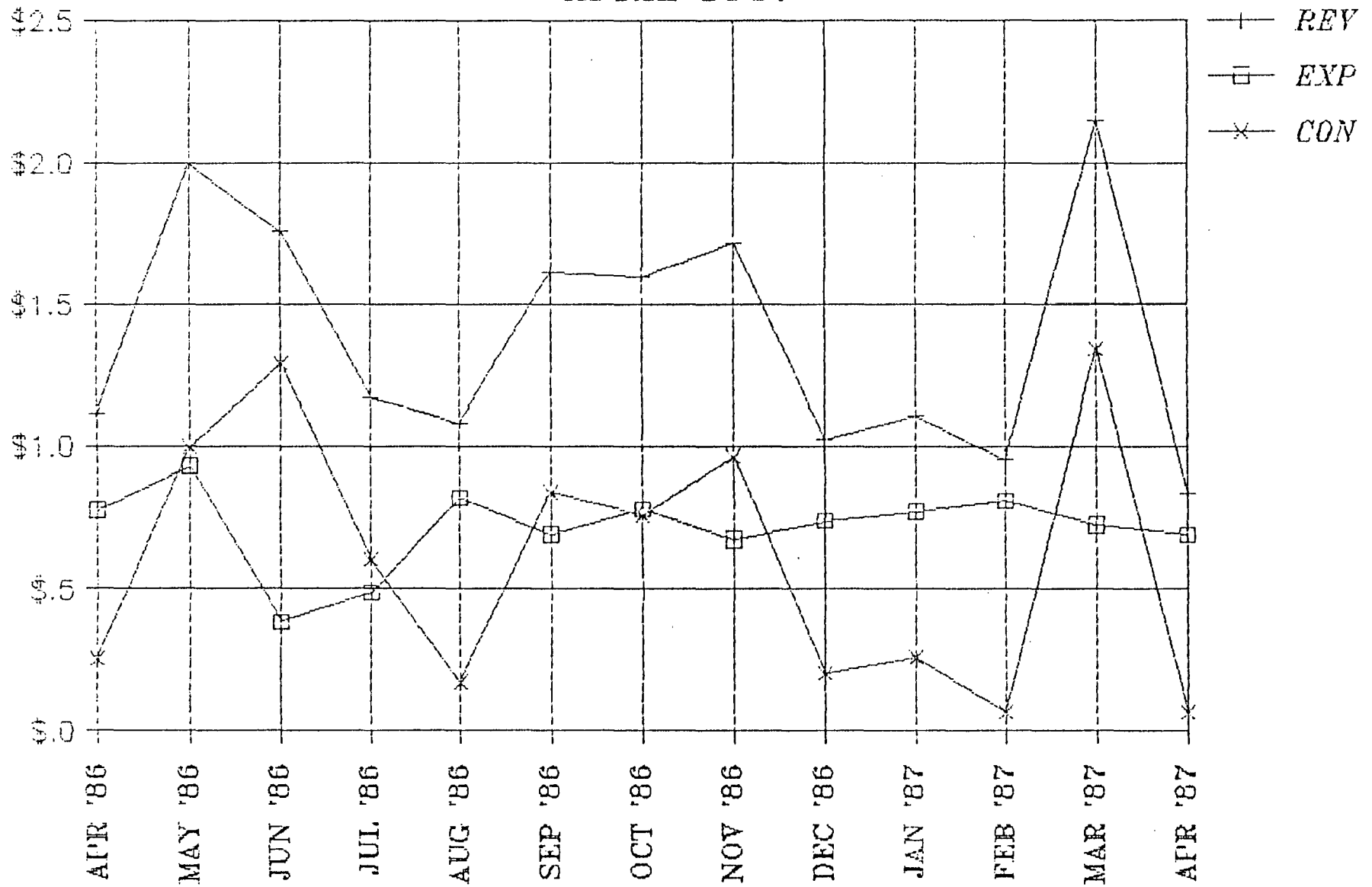
FOR MONTH OF APR 1987

## COMBINED SHIP REPAIR YARD

ACCT NO.	DESCRIPTION	-----APR 1987-----	-----Y E A R T O D A T E-----	BUDGETED THIS FY				
		ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	VARIANCE	
	CAPITALIZED COSTS	-61,692	-47,315	14,377	-439,269	-473,150	(33,881)	-567,800
	TOTAL DIRECT TRANSFERS	-43,098	-21,537	21,561	-181,920	-215,370	(33,450)	-258,400
	<u>TOTAL OPER EXPENSES EXCL DEPR &amp; DHEAD</u>	<u>1,548,200</u>	<u>783,706</u>	<u>(764,494)</u>	<u>9,520,123</u>	<u>7,837,060</u>	<u>(1,683,063)</u>	<u>9,405,400</u>
	CONTRIBUTION BEFORE DEPR & DHEAD	144,256	391,162	(246,906)	4,575,677	3,911,620	664,057	4,693,200
	<u>OVERHEAD</u>	<u>75,695</u>	<u>75,695</u>	<u>0</u>	<u>762,821</u>	<u>756,950</u>	<u>(5,871)</u>	<u>908,400</u>
	<u>TOTAL OPER EXPENSES EXCL DEPRECIATION</u>	<u>1,623,895</u>	<u>859,401</u>	<u>(764,494)</u>	<u>10,282,944</u>	<u>8,594,010</u>	<u>(1,688,934)</u>	<u>10,313,800</u>
	<u>CONTRIBUTION BEFORE DEPRECIATION</u>	<u>68,561</u>	<u>315,467</u>	<u>(246,906)</u>	<u>3,812,856</u>	<u>3,154,670</u>	<u>658,186</u>	<u>3,784,800</u>
	<u>DEPRECIATION</u>	<u>282,028</u>	<u>274,736</u>	<u>(7,292)</u>	<u>2,757,856</u>	<u>2,747,360</u>	<u>(10,496)</u>	<u>3,296,900</u>
	<u>OPERATING INCOME OR LOSS</u>	<u>-213,467</u>	<u>40,731</u>	<u>(254,198)</u>	<u>1,055,000</u>	<u>407,310</u>	<u>647,690</u>	<u>487,800</u>

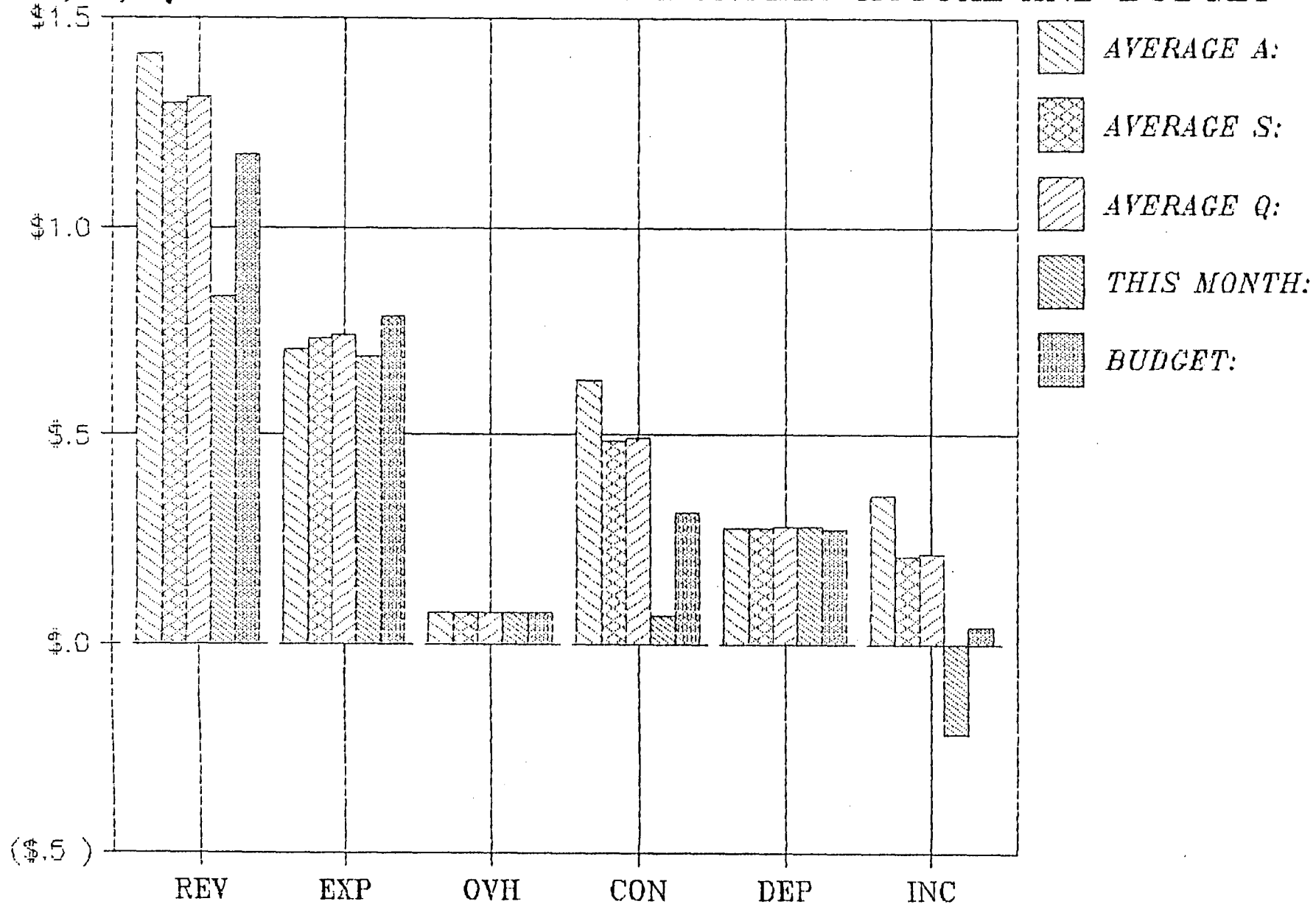
# PSRY FINANCIAL STATUS REPORT

APRIL 1987



# PSRY FINANCIAL STATUS REPORT

A, S, Q TRENDS COMPARED TO MONTHLY ACTUAL AND BUDGET





# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

March 25, 1987

RECEIVED  
MAR 26 1987  
N.W. MI. WKS

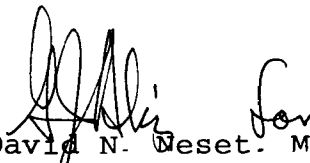
Northwest Marine Iron Works  
5555 N. Channel, Bldg. 2  
Portland, OR 97217

## PSRY FINANCIAL REPORT

Enclosed is a copy of the PSRY Gain and Loss Statement for the month of February 1987. We have included graphs to illustrate monthly and quarterly trends and to compare monthly financial performance to budget. and the averages over the past three (O). six (S). and twelve (A) month periods.

This month's data continues to reflect the slowdown in business. Budgets have been adjusted to reflect anticipated results for this fiscal year. Note that PSRY was anticipating the need to reserve \$2 million or more during Fiscal Year 1987 due to Northwest Marine Iron Works filing for reorganization. December's financial reports included \$1,481,847 reserved for this purpose. In order to provide comparable data, the reserved amounts are deleted from the attached graphs. To break even on a cash basis this year, PSRY needs to produce \$350,000 per month in Contribution before Depreciation.

Please call Guy Alvis at 231-5568 if you have questions.

  
David N. Deset, Manager  
Portland Ship Repair Yard

/sb

Enclosures



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR133998

MR413 RUN 3/23/87

FOR MONTH OF FEB 1987

## COMBINED SHIP REPAIR YARD

ACCT NO.	DESCRIPTION	FEB 1987			YEAR TO DATE			BUDGETED THIS FY
		ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	VARIANCE	
<b>REVENUES</b>								
640	SERVICE REVENUE	434,780	410,091	24,689	3,740,383	3,200,728	459,655	4,921,200
680	RENTAL AND CONCESSIONS	109,596	133,114	(23,518)	1,109,644	1,064,912	44,732	1,597,400
720	PSRY REVENUE	414,991	502,131	(87,140)	3,864,468	4,017,048	(152,580)	6,025,600
730	PSRY USE AGREEMENT REVENUE	46,138	226,657	(180,519)	2,193,454	1,813,256	380,198	2,719,900
750	OTHER REVENUE	40,745	17,691	23,054	216,222	141,528	74,694	212,300
790	POLICY ADJUSTMENTS	15	0	(15)	19	0	(19)	0
795	REBATES, REFUNDS & DISCOUNTS	95,337	114,816	(19,479)	867,246	918,528	(51,282)	1,377,800
<b>TOTAL REVENUES</b>		<b>950,897</b>	<b>1,174,868</b>	<b>(223,971)</b>	<b>10,256,905</b>	<b>9,398,944</b>	<b>857,961</b>	<b>14,098,600</b>
<b>PERSONAL SERVICES, MATERIALS &amp; SERVICES</b>								
800	ADMINISTRATIVE LABOR	33,646	38,649	5,003	317,599	309,192	(8,407)	463,800
805	OPERATING LABOR	123,963	166,418	42,455	1,355,866	1,331,344	(24,522)	1,997,200
815	MAINTENANCE LABOR	71,573	86,662	15,089	677,495	693,296	(15,801)	1,040,200
820	ACCRUED LABOR	441	0	441	98,451	0	98,451	0
827	OTHER PAYROLL EXPENSE	17,617	14,575	(3,042)	138,701	116,600	(22,101)	174,900
<b>TOTAL PERSONAL SERVICES</b>		<b>246,357</b>	<b>306,304</b>	<b>59,947</b>	<b>2,391,209</b>	<b>2,450,432</b>	<b>59,223</b>	<b>3,676,100</b>
830	MATERIALS AND SUPPLIES	53,788	46,563	(7,225)	481,550	372,504	(109,046)	558,900
850	EQUIP. FUEL AND LUB	4,343	6,290	2,447	43,745	54,320	10,575	81,500
860	UTILITIES	234,720	175,073	(59,647)	1,523,665	1,400,584	(123,081)	2,100,900
880	OUTSIDE SERVICES	179,744	76,594	(103,150)	933,115	612,752	(320,363)	919,300
930	FIXED CHARGES	51,386	54,274	2,888	414,601	434,192	(19,591)	651,300
950	ALLOCATED EXPENSES	1,101	1,142	41	9,846	9,136	(710)	13,700
960	MANAGEMENT & TRAVEL EXPENSES	11,790	5,395	(6,395)	56,906	43,160	(13,746)	64,800
990	MISCELLANEOUS EXPENSES	14,485	133,108	118,623	1,519,910	1,064,864	(455,046)	1,597,300
<b>TOTAL MATERIALS AND SERVICES</b>		<b>551,357</b>	<b>498,939</b>	<b>(52,418)</b>	<b>4,983,337</b>	<b>3,991,512</b>	<b>(991,825)</b>	<b>5,987,700</b>
<b>TOTAL PERS SERV. MAT &amp; SERV EXCL DEPR</b>		<b>797,714</b>	<b>805,243</b>	<b>7,529</b>	<b>7,374,546</b>	<b>6,441,944</b>	<b>(932,602)</b>	<b>9,663,800</b>
<b>DIRECT TRANSFERS</b>								
500	SERVICES RECEIVED FROM	24,331	26,644	2,313	220,234	213,152	(7,082)	319,800
560	SERVICES RECEIVED FROM	0	0	0	0	0	0	0
<b>SERVICES RECEIVED</b>		<b>24,331</b>	<b>26,644</b>	<b>2,313</b>	<b>220,234</b>	<b>213,152</b>	<b>(7,082)</b>	<b>319,800</b>
570	SERVICES PROVIDED FOR	0	-600	(600)	-4,475	-4,800	(325)	-7,200
<b>SERVICES PROVIDED</b>		<b>0</b>	<b>-600</b>	<b>(600)</b>	<b>-4,475</b>	<b>-4,800</b>	<b>(325)</b>	<b>-7,200</b>
580	CAPITALIZED COSTS FOR	-15,039	-47,315	(32,276)	-342,956	-378,520	(35,564)	-567,800

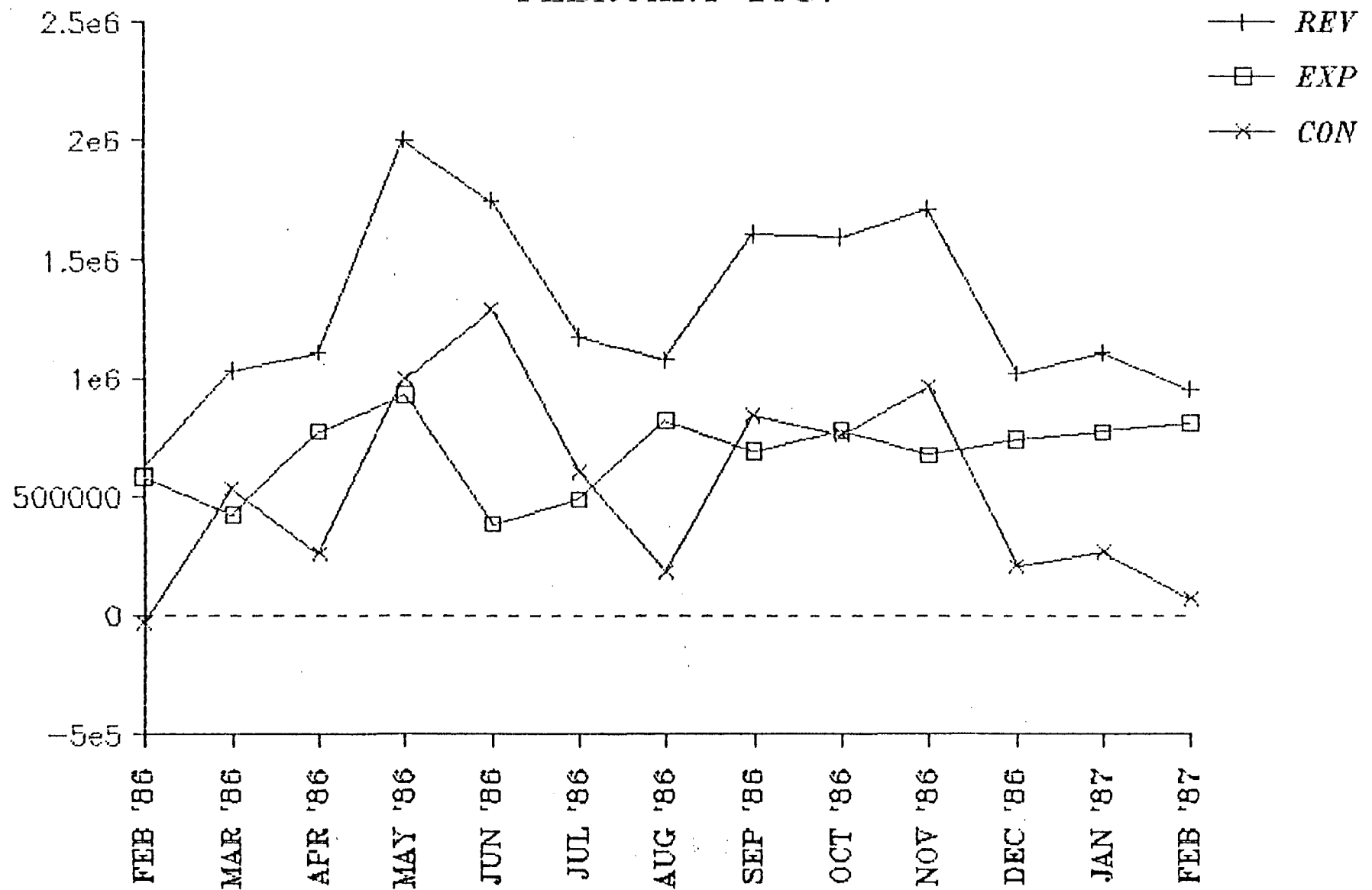
MR413 RUN 3/23/87

FOR MONTH OF FEB 1987

## COMBINED-SHIP-REPAIR-YARD

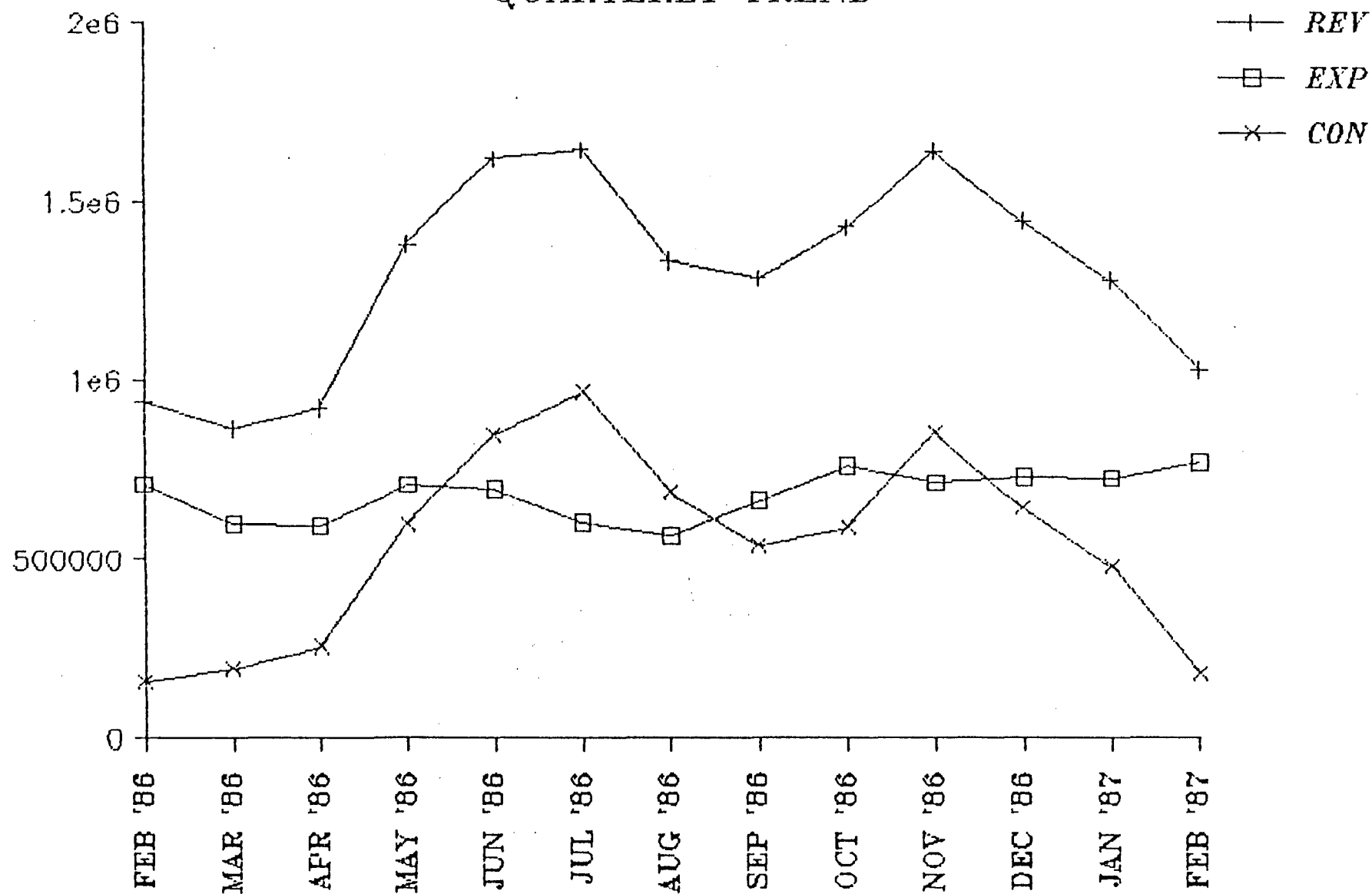
ACCT NO.	DESCRIPTION	FEB 1987			Y E A R T O D A T E			BUDGETED THIS FY
		ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	VARIANCE	
	CAPITALIZED COSTS	-15,039	-47,315	(32,276)	-342,956	-378,520	(35,564)	-567,000
	TOTAL DIRECT TRANSFERS	9,292	-21,271	(30,563)	-127,197	-170,168	(42,971)	-255,200
	<u>TOTAL OPER EXPENSES EXCL DEPR &amp; OHEAD</u>	<u>807,006</u>	<u>703,972</u>	<u>(23,034)</u>	<u>7,247,349</u>	<u>6,271,776</u>	<u>(975,573)</u>	<u>9,408,600</u>
	<u>CONTRIBUTION BEFORE DEPR &amp; OHEAD</u>	<u>-143,891</u>	<u>390,096</u>	<u>(247,005)</u>	<u>3,009,556</u>	<u>3,127,160</u>	<u>(117,612)</u>	<u>4,690,000</u>
	<u>OVERHEAD</u>	<u>75,695</u>	<u>75,695</u>	<u>0</u>	<u>611,431</u>	<u>605,560</u>	<u>(5,871)</u>	<u>908,400</u>
	<u>TOTAL OPER EXPENSES EXCL DEPRECIATION</u>	<u>882,701</u>	<u>859,667</u>	<u>(23,034)</u>	<u>7,858,780</u>	<u>6,877,336</u>	<u>(981,444)</u>	<u>10,317,000</u>
	<u>CONTRIBUTION BEFORE DEPRECIATION</u>	<u>-68,196</u>	<u>315,201</u>	<u>(247,005)</u>	<u>2,398,125</u>	<u>2,521,600</u>	<u>(123,483)</u>	<u>3,781,600</u>
	<u>DEPRECIATION</u>	<u>276,308</u>	<u>274,736</u>	<u>(1,572)</u>	<u>2,194,531</u>	<u>2,197,880</u>	<u>3,357</u>	<u>3,296,900</u>
	<u>OPERATING INCOME OR LOSS</u>	<u>-208,112</u>	<u>40,465</u>	<u>(248,577)</u>	<u>203,594</u>	<u>323,720</u>	<u>(120,126)</u>	<u>484,700</u>

# PSRY FINANCIAL STATUS REPORT FOR THE MONTH FEBRUARY 1987



# PSRY FINANCIAL STATUS REPORT FOR THE MONTH

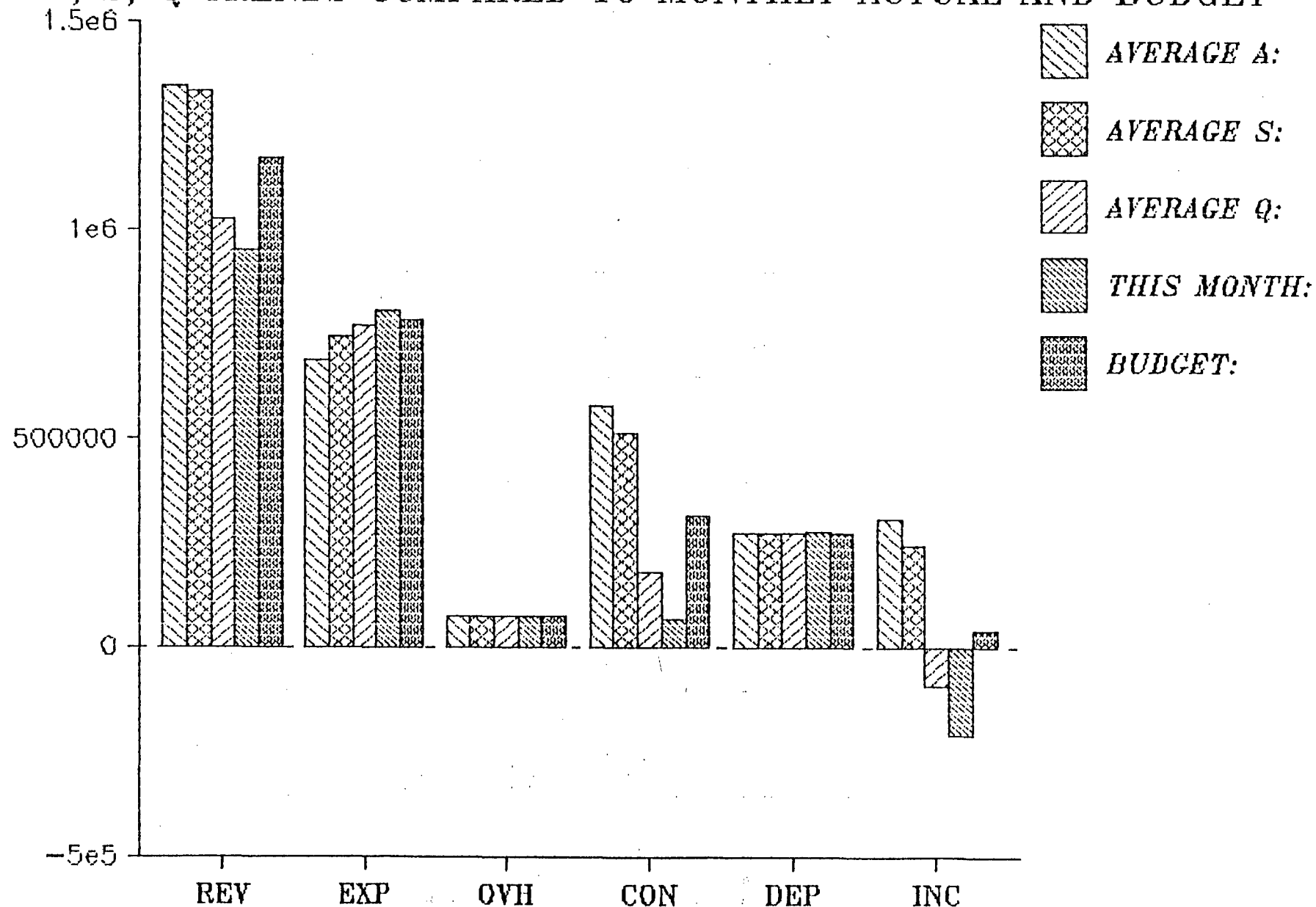
## QUARTERLY TREND





# PSRY FINANCIAL STATUS REPORT FOR THE MONTH

A, S, Q TRENDS COMPARED TO MONTHLY ACTUAL AND BUDGET



# NORTHWEST MARINE IRON WORKS

## PLAN - PREFERRED STOCK DISCUSSION

- o Preferred stock issued equal to 100% of the allowed claims - assume \$13,500,000 for this discussion.
- o Redemption at 10% per year over 12 year period - two yearly skips allowed not consecutively.
- o Company may buy back on following basis.

-BUY BACK-			-REDEMPTION-		
Year	% of Remaining Face Value	\$	Amount	Current Amount	Balance
1	40%	\$5,400	-0-	-0-	\$13,500
2	50%	\$6,075	\$1,350	\$1,350	\$12,150
3	60%	\$6,480	\$1,350	\$2,670	\$10,800
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### o IDEAS

-Pro-rate buy back?

-No accruing interest.

-May be a debenture secured by specific assets.

-Claim etc.

-Run discounts a little longer - 5 years - its very likely we will be able to make a major buy-out.

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DEPARTMENT OF THE NAVY  
SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR, USN  
SEATTLE, WASHINGTON 98115-5003

*F. J. Gavin*  
*NEW BUSINESS*  
IN REPLY REFER TO:  
4710  
Ser 602-6662  
15 Oct 1986

From: Supervisor of Shipbuilding, Conversion and Repair, USN, Seattle, WA

Subj: SHIP REPAIR WORKLOAD FORECAST FOR THE NAVAL BASE SEATTLE AREA OF RESPONSIBILITY

Encl: (1) Preliminary Depot Level Planning Information for Active MSR Contractors  
(2) Definition of Entries for MSR Contractor Report

RECEIVED  
OCT 25 1986  
N.W. ML. WKS

1. Enclosure (1) is forwarded to provide you with data concerning forthcoming surface ship overhaul work planned for solicitation in the Naval Base Seattle Area of Responsibility. You are advised that THIS IS A PLANNING DOCUMENT AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

2. This projected workload is based on the best estimate of future Navy Ship Repair Workload for the area and is subject to change. It does not represent or imply that it will ultimately be accomplished, nor is it a guarantee of future work to be awarded to any contractor in the area.

3. Enclosure (2) provides an explanation of the abbreviations and informational entries of enclosure (1).

*P. F. Grasser*  
P. F. GRASSER

Distribution:

AK-WA Company Inc., Tacoma, WA  
Astoria Marine Construction  
Astoria, OR  
The Boeing Company, Seattle, WA  
Dillingham Ship Repair, Portland, OR  
Duwamish Shipyard, Inc., Seattle, WA  
Fishermen's Boat Shop Inc.,  
Everett, WA  
Lake Union Drydock Co., Seattle, WA  
Lockheed Shipbuilding Co., Seattle, WA  
Lockport Marine Co., Portland, OR  
MARCO, Seattle, WA

Marine Industries Northwest  
Inc., Tacoma, WA  
Marine Power & Equipment Co.  
Seattle, WA  
Northwest Marine Iron Works,  
Portland, OR  
Pacific Marine Ship Repair Inc.,  
Reedsport, OR  
Tacoma Boatbuilding Co., Inc.,  
Tacoma, WA  
Todd Pacific Shipyards Corp.,  
Seattle, WA

Copy to:

COMNAVSEASYSOM (071)  
COMNAVSURFPAC  
COMNAVBASE Seattle  
COMNAVSHIPYD Bremerton, WA  
NIS Seattle  
NSC Puget Sound WA  
Small Business Admin., Seattle  
(Attn: Arthur Oquist)

NWMAR134012

**SHIP REPAIR WORKLOAD FORECAST FOR MASTER SHIP REPAIR CONTRACTORS WITHIN THE NAVAL BASE SEATTLE AREA OF RESPONSIBILITY  
FORECAST COVERS PLANNED WORKLOAD FOR CURRENT QUARTER AND PROJECTED WORK FOR FY-87**

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This projected workload is based on the best estimate of future Navy Ship Repair workload for the area and is subject to change. It does not represent or imply that it will ultimately be accomplished nor is it a guarantee of future work to be awarded to any Contractor in the area.

<u>HULL NR/SHIP NAME</u>	<u>AVAIL</u>	<u>START</u>	<u>END</u>	<u>HPA</u>	<u>FLI</u>	<u>AREA</u>	<u>PROC METH</u>	<u>CONT TYPE</u>	<u>AWD INTERVAL</u>	<u>PCO</u>	<u>DRYDOCK</u>
<u>ROH'S/SRA'S</u>											
LPD-2 (VANCOUVER)	ROH	02/09/87	11/06/87	SD	P	CWA	IFB	FFP	120	SPORT	Yes
DD-965 (KINKAID)	ROH	02/23/87	01/22/88	SD	P	CWA	RFP-2P	FFP	120	SEA02	Yes
MSO-438 (ESTEEM)	ROH	04/06/87	06/26/87	SEATL	P-R	CWA	IFB	FFP	30	SSEAT	Yes
MSO-455 (IMPLICIT)	SRA1	09/09/87	10/17/87	TACMA	P-R	CWA	IFB	FFP	30	SSEAT	Yes
FFG-9 (WADSWORTH)	SRA	04/13/87	07/24/87	LBEACH	P-R	CWA	IFB	FFP	30	SLB	Yes
MSO-427 (CONSTANT)	DSRA	05/04/87	06/12/87	SD	P-R	CWA	IFB	FFP	30	SSEAT	Yes
DD-966 (HEWITT)	ROH	05/11/87	05/13/88	SD	P	CWA	RFP-2	FFP	120	SEA02	Yes
DD-964 (P.F. FOSTER)	ROH	06/15/87	06/17/88	LBEACH	P	CWA	IFB	FFP	120	SEA02	Yes
ARS-38 (BOLSTER)	ROH	07/06/87	12/04/87	LBEACH	P-R	CWA	IFB	FFP	120	SSD	Yes
CVN-68 (NIMITZ)	SRA (topside work)	07/20/87	10/15/87	PUGET	P	HPA	IFB	FFP	30	SSEAT	No
FFG-23 (LEWIS B. PULLER)	DSRA	07/27/87	10/30/87	LBEACH	P-R	CWA	IFB	FFP	60	SLB	Yes
MSO-437 (ENHANCE)	DSRA	09/07/87	10/16/87	TACMA	P-R	CWA	IFB	FFP	30	SSEAT	Yes

Enclosure (1)

NWMAR134013

MSO-464 (PLUCK)	DSRA	03/07/87	10/16/87	SD	P-R	CWA	IFB	FFP	30	SSD	Yes
DD-967 (ELLIOT)	ROH	09/14/87	09/16/88	SD	P	CWA	MSS	FPI	120	SEA02	Yes
MSO-488 (CONQUEST)	DSRA	03/21/87	10/30/87	SSEAT	P-R	CWA	IFB	FFP	30	SSEAT	Yes

DISTRICT CRAFT OVERHAULS

GR-11	ROH	09/01/87 approx start		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YFN-806	ROH	3rd Qtr FY-87		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YFN-941	ROH	3rd Qtr FY-87		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YFN-958	ROH	4th Qtr FY-87		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YTB-836 (POKODON)	ROH	4th Qtr FY-87		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YFN-972	ROH	FY-87		KEYPORT	P	HPA	IFB	FFP	30	SSEAT	Yes
YFN-1259	ROH	4th Qtr FY-87		ADAK	P	HPA	IFB	FFP	30	SSEAT	Yes
SSG-577 (EX-GROWLER)	CONV	FY-87		NUSC	P	HPA	IFB	FFP	15	SSEAT	Yes

Enclosure (1)

NWMAR134014

**SHIP REPAIR WORKLOAD FORECAST FOR MASTER SHIP REPAIR CONTRACTORS  
WITHIN THE NAVAL BASE SEATTLE AREA OF RESPONSIBILITY**

**DEFINITION OF INFORMATION ENTRIES  
(in order of appearance)**

<p><b>HULL NR.</b> - Ship Type Designator and Nr. of Hull</p> <p><b>NAME</b> - Ship's Name</p> <p><b>AVAIL</b> - Type of Availability          ROH - Regular Overhaul          NRT - ROH of Naval Reserve Training Ship          FMA - Phased Maintenance Availability          DPMA - Phased Maintenance Avail with Drydocking          SRA - Selected Restricted Availability          DSRA - Selected Restricted Availability w/Drydocking          PRAV - Planned Restricted Availability</p> <p><b>START</b> - Availability Start Date (MM/DD/YY)</p> <p><b>END</b> - Availability Completion Date (MM/DD/YY)</p> <p><b>HPA</b> - Homeport of the ship when ship is under the operational control of the fleet:          ADAK - ADAK, AK          BANGOR - BANGOR, WA          BREM - BREMERTON, WA          CONCD - CONCORD, CA          KEYPORT - KEYPORT, WA          LBEACH - LONG BEACH, CA          NSC - PUGET          SD - SAN DIEGO, CA          PHUEN - PORT HUENEME, CA          SEATL - SEATTLE, WA          SFRAN - SAN FRANCISCO, CA          TACMA - TACOMA, WA</p> <p><b>FLT</b> A - Atlantic Fleet          P - Pacific Fleet          PR- Pacific Reserve Fleet</p> <p><b>SOLICIT AREA</b> - Area in which offerors will be solicited:          HPA - Homeport area; 50 mile radius around the homeport.           CWA - Coast wide area; includes total coast, for CONUS homeports.</p> <p><b>PROCURE METH</b> - The type of contractor response and govt evaluation technique to be used:          IFB - <u>Invitation For Bid</u>: where lowest price is paramount in selecting the contractor           MSS - Modified Source Selection: evaluates RFPs using an evaluation organization IAW NAVMAT and NAVSEA instructions for evaluating large or complex RFPs</p>	<p><b>PROCURE METH (cont'd)</b>          RFP-1 - <u>Request for proposal</u>; requests proposal in accordance with an outline provided; evaluated using announced awd factors seeking offer most advantageous to the govt, including price and other factors</p> <p>RFP-2 - <u>Request for proposal</u>; evaluates RFPs using an evaluation organization in accordance with NAVMAT and NAVSEA instructions for evaluating large or complex RFPs. The contractors' technical proposals are then evaluated to determine those contractors that are in the technical range determined by the Performance Evaluation Group (PEG). The cost proposals for those contractors falling in the technical range are then evaluated to determine the low offeror, who after determination of responsibility is awarded the contract.</p> <p>FSS - <u>Formal source selection</u>; evaluates RFPs using an evaluation organization IAW NAVMAT and NAVSEA instructions for evaluating large or complex RFPs.</p> <p><b>CONTRACT TYPE</b> - the type of contract that is expected to result from the solicitation:           FFP - Firm Fixed Price           CPFF - Cost Plus Fixed Fee           CPAF - Cost Plus Award Fee           CPIF - Cost Plus Incentive Fee           FPI - Fixed Price Incentive</p> <p><b>AWARD INTERVAL</b> - The number of days between the award of the overhaul and the start of the availability.</p> <p>PCO - Activity assigned responsibility for procuring the ship          PCO - industrial effort from the private sector for this ship</p> <p>SEA02 - NAVSEA          SBKYN - SUPSHIP BROOKLYN          SPORT - SUPSHIP PORTSMOUTH          SLB - SUPSHIP LONG BEACH          SSEAT - SUPSHIP SEATTLE          SSD - SUPSHIP SAN DIEGO          SSF - SUPSHIP SAN FRANCISCO</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Enclosure (2)

NWMAR134015



January 23, 1987

PORTLAND  
P.O. Box 5786  
Portland, OR 97226-0786  
7337 S.W. Knap Lane  
Tigard, OR 97224-1900  
(503) 620-7050  
1-800-452-5810

Mr. Nick Calley  
Northwest Marine Ironworks  
P.O. Box 3109  
Portland, OR 97208

HILLSBORO  
125 S.W. Baseline  
Hillsboro, OR 97123  
(503) 640-6569

RE: FISHING VESSEL NEAHKAHNE

Dear Nick:

I am in receipt of the amended plan of reorganization which you or Linda forwarded to me. I left a message for you to call me back but just in case we miss the connection I am writing you this letter to bring you up to date as to what has transpired on the above.

Captain Frank Bohannon, the principal of the above, filed Chapter 11 on January 1, 1984. At the first meeting of creditors I represented Northwest Marine's claim and at that time I was elected Chairman of the Creditor's Committee. Over the past three years I have attended several meetings and I was involved in telephone conversations with the judge, and attorneys representing other creditors. All along they have recognized all of the claims of the creditors and no question was ever raised as to the validity of Northwest Marine's claim. Not until today with the petition to amend the plan have they ever mentioned anything about disallowing the claim by Northwest Marine. All of a sudden they are saying that the charges were excessive. I cannot help but think that the only reason they are doing it is because Northwest Marine is also in Chapter 11.

Originally when I was elected Chairman of the Creditor's Committee I contacted our attorneys, Bolliger, Hampton, and Tarlow to see if they would represent the unsecured creditors. Lou Hampton indicated to me that there is only one asset in the bankruptcy, namely the Vessel itself and there are several creditors with mortgages. He felt at that time that it would not be wise to spend money for attorney's fees. The case has not changed but there is a possibility that Captain Bohannon may prevail on a lawsuit against the Koreans which may net him one million dollars. That is one of the reasons why this case has been stretched over the last three years to wait and see what the outcome of the litigation would be.

- 1 -



**CONSOLIDATED  
SUPPLY CO.**

Mr. Nick Calley  
Northwest Marine Ironworks  
Page 2

It is likely that some recovery will be made from that source.  
Northwest Marine's claim amounts to \$13,284.

Nick, I think it is time that we get your attorneys involved  
and assert Northwest Marine's claim. If you will give me  
a call and give me the name and phone number of the person  
I should be talking to I will be happy to do all I can to  
assist. Whatever you can get will help.

Regards,



J. Fustolo

JF/dj  
Enclosure  
cc: Ron Walquist

1 MILTON R. STEWART  
Suite 2300  
2 1300 S. W. 5th Avenue  
Portland, OR 97201  
3 Telephone: (503) 241-2300

4 Attorney for Debtor-in-Possession  
5  
6  
7

8 IN THE UNITED STATES BANKRUPTCY COURT  
9 FOR THE DISTRICT OF OREGON

10 In Re: )  
 ) Bankruptcy Case  
11 THE FISHING VESSEL NEAHKAHNIE, ) No. 384-00026  
a joint venture of Neahkahnne )  
12 Fisheries, Inc., and Northern ) AMENDED PLAN OF  
Trawlers, Inc., ) REORGANIZATION  
13 )  
14 Debtor. )

15 The Fishing Vessel Neahkahnne proposes the following  
16 Plan of Reorganization ("Plan") pursuant to Chapter 11 of the  
17 Bankruptcy Code.

18 ARTICLE I

19 DEFINITIONS

20 1. "Debtor" means the Fishing Vessel Neahkahnne, a joint  
21 venture of Neahkahnne Fisheries, Inc., and Northern Trawlers, Inc.

22 2. "Creditors" means all of the creditors of the Debtor  
23 holding claims for unsecured debts, liabilities, demands or claims  
24 of any character whatsoever.

25 3. "Secured Creditors" means all creditors who hold a  
26 lien, security interest, ship's mortgage or other encumbrance which



1 has been properly perfected as required by law with respect to  
2 property owned by the Debtor.

3 4. "Plan" means this Plan of Reorganization in its  
4 present form or as it may be further amended, supplemented or modi-  
5 fied.

6 5. "Court" means the U.S. Bankruptcy Court for the  
7 District of Oregon, including the U.S. Bankruptcy Judge presiding  
8 in the Chapter 11 case of this Debtor.

9 6. "Code" means the Bankruptcy Code, 11 USC §101, et seq.,  
10 and any amendments thereof.

11 7. "Class" means any class into which claims of creditors  
12 are classified pursuant to Article III hereof.

13 8. "Confirmation or Effective Date" shall mean the date  
14 upon which the Order of Confirmation of the Plan shall become final.

15 9. "Petition Date" shall mean January 4, 1984, the date  
16 on which Debtor filed his Chapter 11 Petition with the Court.

17 10. "WPCA" shall mean Willamette Production Credit  
18 Association, its successors, assigns and affiliates.

19 11. "Distribution Date" shall mean the date upon which  
20 the Order of Confirmation is no longer subject to appeal or  
21 certiorari proceedings, on which date no such appeal or certiorari  
22 proceeding is then pending and on which date all the conditions to  
23 the effectiveness of the Plan expressly set forth in the Plan have  
24 been satisfied fully or effectively waived.

25 ///

26 ///

1 ARTICLE II

2 ADMINISTRATION AND PRIORITY CREDITORS

3 The administrative expenses of Debtor's Chapter 11 case  
4 allowed pursuant to Section 503(b) of Code and each allowed claim  
5 entitled to priority pursuant to Section 507 (a)(1), (3) or (6) of  
6 Code shall be paid in full upon Distribution Date, unless other-  
7 wise ordered by Court, in cash or upon such other terms as may be  
8 agreed upon by the holder of such allowed claim and Debtor.

9 ARTICLE III

10 CLASSIFICATION OF CLAIMS

11 The claims are classified as follows:

12 Class 1. Secured claim of Willamette Production Credit  
13 Association.

14 Class 2. Alleged secured claim of Krupp Atlas, Elektronik.

15 Class 3. Unsecured claims of Gourock Division, Wire  
16 Rope Industries Ltd. and Northern Marine Electronics.

17 Class 4. Allowed unsecured claims of Willamette Production  
18 Credit Association; Amfac Foods, Inc.; Harveen Eide; Gourock  
19 Division, Wire Rope Industries Ltd.; and Northern Marine  
20 Electronics.

21 ARTICLE IV

22 TREATMENT OF CLAIMS

23 For the purpose of this Plan, and based upon the opinion  
24 of experts in the employ of WPCA, the value of the Fishing Vessel  
25 Neahkahnne does not exceed the value of WPCA's first secured ship's  
26 mortgage, which has priority over all claims of other creditors

1 herein. WPCA further concedes that the value of the vessel does not  
2 exceed \$1,124,590.43 and, therefore, WPCA's principal balance of  
3 Class One secured debt shall be deemed to be in that amount. As  
4 payment of its Class One Claim, WPCA shall receive:

5 (a) An amendment of the existing first preferred ship's  
6 mortgage in the principal amount of \$1,024,590.43, bearing  
7 interest at the rate of 12.5% per annum (fixed) and amortized  
8 over 10 years. The entire principal balance and accrued  
9 interest, if any, shall be due 36 months from the date of the  
10 instrument which shall be the date of confirmation of the  
11 revised Chapter 11 plan of distribution.

12 (b) A further amendment of the existing first preferred  
13 ship's mortgage providing WPCA with the functional equivalent  
14 of a \$100,000 second preferred ship's mortgage bearing interest  
15 at the rate of 12.5% per annum (fixed) with annual payments of  
16 principal and interest of not less than \$30,000 per year. The  
17 entire principal balance and accrued interest, if any, shall be  
18 due and payable 36 months from the date of the instrument,  
19 which shall also be the date of the confirmed revised plan of  
20 distribution in the Chapter 11 bankruptcy proceedings.

21 (c) Notwithstanding the amortization and payment pro-  
22 visions set forth in subparagraphs (a) and (b), above, the  
23 Fishing Vessel Neahkahnne will agree to set aside and pay  
24 to WPCA not less than 20% of its catch proceeds to be applied  
25 to the amounts owed under subparagraphs (a) and (b), above.  
26 Should said 20% set aside, in any calendar year, not equal

1 or exceed \$225,000, the vessel shall pay, in addition to  
2 such set aside, sufficient additional funds to provide a  
3 payment of \$225,000 to WPCA. WPCA shall apply the catch  
4 set aside payments and, if applicable, any additional payments  
5 from the vessel, 90% to the debt described in subparagraph (a)  
6 hereof and 10% to the debt described in subparagraph (b)  
7 hereof (in each case applying payments first to accrued  
8 interest and then to principal), provided, however, that  
9 when such allocation has resulted in a credit of \$30,000  
10 against the debt described in subparagraph (b), the balance  
11 of all such payments shall be credited to the debt described  
12 in subparagraph (a).

13 The provisions of that agreement between WPCA and the  
14 Fishing Vessel Neahkahnne are set forth more fully in two letter  
15 agreements between the parties dated June 12 and June 13, 1986,  
16 copies of which are attached to and by this reference incorporated  
17 herein as Exhibit B.

18 WPCA, Amfac and Eide have ship's mortgages which consti-  
19 tute liens and security interests on substantially all of the  
20 Neahkahnne's assets. Amfac and Eide both hold personal guarantees  
21 of the principal shareholder of the corporations constituting the  
22 joint venture which owns and operates the Fishing Vessel Neahkahnne,  
23 Capt. Frank B. Bohannon. The Neahkahnne and WPCA contend that the  
24 value of the vessel is less than the amount owed to WPCA. Eide and  
25 Amfac do not, for the purposes of this Amended Plan of Reorganiza-  
26 tion, contend that the value of the vessel exceeds the amount of

1 WPCA's first ship's mortgage. Inasmuch as Amfac and Eide both hold  
2 personal guarantees of Capt. Frank Bohannon, Amfac and Eide have  
3 elected to exercise their rights against Capt. Bohannon under the  
4 personal guarantee. Capt. Bohannon has entered into separate  
5 settlements with Amfac and Eide under which he will personally pay  
6 to Amfac and Eide \$62,500 and \$32,500, respectively. Except as  
7 to the proceeds of the Korean litigation, later discussed, Amfac  
8 and Eide have agreed not to participate as unsecured creditors in  
9 the Plan. In that regard, Amfac and Eide will be deemed to be un-  
10 secured creditors under Class Four of the Debtor's Plan in the  
11 amounts of \$53,500 and \$57,500, respectively.

12 The claim of Krupp Atlas, Electronik, which has been dis-  
13 puted herein, shall be separately classified as a Class Two Claim.  
14 Krupp Atlas claims to be a secured creditor and had filed a motion  
15 in which it sought to determine its status as a secured creditor which  
16 would have entailed a hearing to determine value. In addition, the  
17 Fishing Vessel Neahkahnne had noted this claim as disputed and had  
18 indicated its intention to file an adversary complaint. Finally,  
19 Krupp had alleged that it had relied upon the credit of Capt. Bohannon  
20 personally in providing goods and services to the vessel and had  
21 sought to impose personal liability on Capt. Bohannon.

22 In order to avoid litigation on all of the foregoing issues  
23 and to expedite confirmation of the Plan herein, Krupp shall be  
24 separately treated as a Class Two creditor. As such, it will  
25 receive, in consideration of its releasing its right to any share of  
26 the Korean proceeds described above, the amount of \$2,500 from the

1 Fishing Vessel Neahkahnle and other consideration from Capt. Bohannon  
2 in consideration of Krupp releasing its claim of personal liability.  
3 In addition, Krupp will return to the Fishing Vessel Neahkahnle two  
4 catch indicator "eggs" in its possession and which are the property  
5 of the Fishing Vessel Neahkahnle.

6 The allowed unsecured claims of Gourock and Northern  
7 Marine shall be deemed to be Class Three Claims and shall each  
8 receive \$2,500 in cash upon confirmation.

9 Class Four Claims shall consist of the balance of the  
10 claims of WPCA (\$595,218), Amfac (\$53,500), Eide (\$57,500), Northern  
11 Marine Electronics (\$8,077.61) and Gourock (\$69,430.85 less the  
12 value of the nets returned by the Fishing Vessel Neahkahnle; see  
13 description of contested claims).

14 Creditors with Class Four Claims will receive a distri-  
15 bution from the proceeds of the Korean litigation, if any, in  
16 accordance with the following paragraph.

17 Litigation Proceeds. Capt. Frank Bohannon, in behalf of  
18 himself, the Fishing Vessel Neahkahnle and its joint venture  
19 partners, filed, previous to the filing of the Petition herein, a  
20 lawsuit against Korean Wan Yang Corporation arising out of the  
21 latter's alleged breach of its joint venture agreement with the  
22 vessel and others in 1982. That matter went to trial on November 19,  
23 1984, in the United States District Court for the Northern District  
24 of Washington. On November 21, 1984, a jury awarded to the  
25 plaintiffs a judgment of \$1.1 million. That award was later set  
26 aside by the Court based upon erroneous instructions to the jury.

1 Although the matter has been scheduled for a re-trial, the value  
2 of the Korean litigation has become, at best, problematical. To the  
3 extent that there is any value to the Korean litigation, it shall be  
4 distributed in the following manner:

5 (a) There shall be first paid attorneys' fees and  
6 expenses of litigation;

7 (b) There shall then be paid to Capt. Frank Bohannon  
8 25 percent of the remaining balance;

9 (c) There shall then be paid to WPCA the lesser of  
10 \$100,000 or the remaining principal balance of the debt  
11 described in paragraph 2(b) of the letter agreement between  
12 WPCA and the Fishing Vessel Neahkahn timer dated June 12, 1986,  
13 and appended as an exhibit to the Amended Plan of Reorganiza-  
14 tion herein;

15 (d) Ten percent of the remaining sum shall be paid to  
16 the Class Four Creditors herein prorata (in the proportion  
17 their Class Four Claim bears to the total of all Class Four  
18 Claims);

19 (e) The balance to be applied to the capital accounts  
20 of the Fishing Vessel Neahkahn timer to be used as working  
21 capital, for capital improvements and for debt reduction in  
22 such proportions as Capt. Frank Bohannon shall deem to be in  
23 the best interest of the vessel.

24 Contested Claims. The Neahkahn timer, by and through  
25 Capt. Bohannon, has reserved its right to object to claims. The  
26 claim of Northwest Marine & Ironworks is objected to in its

1 entirety based upon the results of a marine survey conducted by  
2 John Murdoch indicating that the charges of Northwest Marine &  
3 Ironworks were excessive. Northwest Marine & Ironworks is itself a  
4 debtor-in-possession in a Chapter 11 bankruptcy, has not partici-  
5 pated in the proceedings and has indicated no intention to further  
6 assert its claim.

7 As to the claim of Gourock Division, Wire & Rope Industries  
8 Ltd., one fishing net and one-half of one fishing net were, pre-  
9 filing, returned to Gourock as defective. No credit has been granted  
10 by Gourock for those defective nets. It is the position of the  
11 Neahkahnne and Capt. Bohannon that a credit, the size of which is  
12 to be determined, should be given for the returned nets. Finally,  
13 the Fishing Vessel Neahkahnne maintains a claim against Krupp Atlas,  
14 Electronik based upon the fact that the catch indicator system  
15 which forms the subject of its claim failed in its use.

#### 16 ARTICLE V

#### 17 SATISFACTION OF PLAN DEBT

18 Distributions pursuant to Article IV or pursuant to  
19 Termination of Fishing Operations/Sale of Vessel shall be in complete  
20 satisfaction, discharge and release of all claims affected by such  
21 distribution or transfer.

#### 22 ARTICLE XIII

#### 23 MISCELLANEOUS

24 Headings. The headings in the Plan are for convenience of  
25 reference only and shall not limit or otherwise affect the meanings  
26 hereof.



1           Notices. All notices required or permitted to be made in  
2 accordance with the Plan shall be in writing and shall be delivered  
3 personally or by telex or other telegraphic means or mailed by  
4 regular or certified mail, return receipt requested, (a) if to  
5 Debtor at 2841 S. W. Champlain Drive, Portland, OR 97201, with  
6 copies to Milton R. Stewart, Suite 2300, 1300 S. W. 5th Avenue,  
7 Portland, OR 97201, (b) if to a holder of Allowed Claim, at the  
8 address set forth within its Allowed Proof of Claim, or if none, at  
9 its address set forth in the schedules prepared and filed with the  
10 Court, (c) notices shall be deemed given when received and (d) any  
11 person may change the address at which he is to receive notices  
12 under the Plan by sending written notice, pursuant to the provisions  
13 of this section, to person to be charged of knowledge of such change.

14           Section and Article References. Unless otherwise specified,  
15 all references in the Plan to sections and articles are to sections  
16 and articles of the Plan.

17           Effective Date. For purposes of all determinations to be  
18 made pursuant to Code with respect to Plan or any Claims, the  
19 "effective date" of the Plan shall be Distribution Date.

20           Reservation of Rights. Neither the filing of this Plan  
21 nor any statement or provision contained herein, nor the taking by  
22 any Creditor of any action with respect to this Plan, shall (a) be  
23 or be deemed to be an admission against interest and (b) until  
24 Distribution Date, be or be deemed to be a waiver of any rights  
25 which any Creditor might have against Debtor or any of his assets  
26 or any other Creditor of Debtor and, until Distribution Date, all

1 such rights are specifically reserved. In the event that Distribu-  
2 tion Date does not occur, neither this Plan nor any statement  
3 contained herein may be used or relied upon in any manner in any  
4 suit, action, proceeding or controversy within or outside the  
5 Chapter 11 case involving Debtor.

6 DATED this \_\_\_\_\_ day of January, 1987.

7  
8  
9 Capt. Frank B. Bohannon  
10 Signed by Milton R. Stewart, his  
11 attorney, in place of Capt. Bohannon  
12 who was unavailable for signing at  
13 the time of the filing of this docu-  
14 ment. Capt. Bohannon reserves the  
15 right to replace this final page with  
16 a page on which his actual signature  
17 appears if requested by the Court or  
18 any creditor.  
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EXHIBIT A

1. WPCA, to the extent of the accrued interest, which is described in the Disclosure Statement, \$414,897.25.
2. Gourock Division, Wife Rope Industries Ltd., \$71,930.85.
3. Krupp Atlas, Elektronik, \$17,717.70.
4. Northern Marine Electronics, \$10,577.61.
5. Northwest Marine & Ironworks, \$13,284.00.
6. Mr. and Mrs. Eide, \$57,500.00.
7. Amfac Foods, Inc. (Pacific Pearl), \$53,500.00.

1 MILTON R. STEWART  
2 Ragen, Tremaine, Krieger  
3 Schmeer & Neill  
4 1300 SW Fifth Avenue, #2300  
5 Portland, Oregon 97201  
6 Telephone: (503) 241-2300

7 Attorney for Debtor-in-Possession

8 IN THE UNITED STATES BANKRUPTCY COURT  
9 FOR THE DISTRICT OF OREGON

10 In Re: )  
11 THE FISHING VESSEL NEAHKAHNIE, ) Bankruptcy Case  
12 a joint venture of Neahkahnne ) No. 384-00026  
13 Fisheries, Inc., and Northern ) AMENDED  
14 Trawlers, Inc. ) DISCLOSURE STATEMENT  
15 Debtor. )

16 Capt. Frank Bohannon, sole shareholder of the Joint  
17 Venture owning and operating the Fishing Vessel Neahkahnne,  
18 submits the following disclosure statement:

19 INTRODUCTION

20 This disclosure statement is provided to all known  
21 creditors for the purpose of disclosing all material information  
22 known to Capt. Frank Bohannon, the sole shareholder of the two  
23 corporate entities owning the Fishing Vessel Neahkahnne. This  
24 information constitutes all material information that Capt.  
25 Bohannon believes will allow the creditors to arrive at a reason-  
26 ably informed decision and exercise their right to vote on the  
27 Plan of Reorganization filed January 19, 1987. A copy of that  
28 plan is attached hereto marked Exhibit A and is by this reference

1 incorporated herein.

2 No representations concerning the Fishing Vessel  
3 Neahkahnie, particularly to its future fishing operations, the  
4 value of its assets or the likelihood of distributions under  
5 the plan, other than as set forth in this statement, are authorized  
6 by Capt. Bohannon. Any representations or inducements made  
7 to secure acceptances which are other than as contained in this  
8 statement should not be relied on by creditors in arriving at  
9 their decisions.

10 The information provided herein and the representations  
11 made herein are accurate and true to the best of Capt. Bohannon's  
12 knowledge. Financial information is presented in this disclosure  
13 statement based upon the most recent financial statements, which  
14 are attached hereto, marked Exhibit B, and incorporated herein  
15 by this reference. Every effort has been made to present accurate  
16 financial statements. However, due to the nature of the  
17 Neahkahnie's business and the cost involved, a certified audit  
18 has not been performed.

19 Also presented in this statement are opinions as to  
20 the fair market value of the Neahkahnie's assets. Such values  
21 result from Capt. Bohannon's opinion as to the value or, in  
22 the case of the largest asset, the Fishing Vessel Neahkahnie  
23 (described below), the mutual opinion of Capt. Bohannon and  
24 the principal secured creditor of the vessel, WPCA. Should  
25 creditors desire to obtain another opinion as to the value of  
26 the Fishing Vessel Neahkahnie, Capt. Bohannon will make such

1 vessel available on reasonable notice to any surveyor hired  
2 at the request and expense of the creditors.

### 3 NATURE AND OPERATION OF BUSINESS

4 In 1977 a joint venture was formed between Northern  
5 Trawlers, Inc. (NTI) (25%) and Neahkahnne Fisheries, Inc. (NFI)  
6 (75%) for the purpose of constructing a new 108 foot crab fisher  
7 known as The Neahkahnne. Mr. and Mrs. Richard Eide (creditors  
8 herein) owned 100 percent of the stock of NFI. NTI put up \$100,000  
9 of equity for construction of the boat and NFI put up \$300,000.  
10 In addition, Capt. Bohannon supervised the construction of the  
11 boat.

12 The boat was financed on a first-ship's mortgage from  
13 Willamette Production Credit Association in the amount of \$1,700,000  
14 \$1,445,110 plus "B" stock).

15 The craft was constructed at a time when king crab  
16 revenues in the Alaskan waters (Bering Sea) were at an all time  
17 high and expected to continue. The boat was constructed specifi-  
18 cally for the purpose of crab fishing. Three early turns of  
19 events worked against the success of the Neahkahnne. First,  
20 shortly after the boat was completed, Mr. and Mrs. Eide indicated  
21 a desire to withdraw from the joint venture. Capt. Bohannon  
22 purchased their stock in NTI in return for the execution of  
23 a subordinated ship's mortgage and a note which Capt. Bohannon  
24 personally guaranteed. This created additional leverage and  
25 reduced the boat's effective equity. Secondly, the boat was  
26 late being completed by the ship yard. The boat unfortunately,

Page

### 3 - AMENDED DISCLOSURE STATEMENT

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Portland, Oregon 97201  
Telephone 241-2300

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1 therefore, missed its first crab season, the revenues of which  
2 had been counted on in the construction pro forma financing.  
3 Third, when the vessel did begin fishing in June of 1979,  
4 it had to begin fishing for hake and pollock because of the  
5 declining king crab resource.

6 It rapidly became apparent after consultation by Capt.  
7 Bohannon with various fishery resource persons, that the future  
8 of the Neahkahnle as a crab vessel was severely limited. Even  
9 though the boat had been specifically constructed for crabbing  
10 and the owners had substantial investments in crab pots, the  
11 decision was made to begin converting the vessel to a bottom  
12 fisher (trawler).

13 Therafter, Capt. Bohannon took the lead in the United  
14 States in forming joint ventures with foreign flag fleets (with  
15 factory ships), including the Japanese and the Russians. Even  
16 though those early joint ventures (1979 through 1983) showed  
17 promise, the boat has been unable to service its debt and operat-  
18 ing expenses. The telling blow in that regard came in 1982  
19 when the joint venture for that year with the Koreans collapsed.  
20 The boat was left idle most of the year, its revenue was halved  
21 and the boat fell very substantially behind in its obligations.

22 The failure of the Korean joint venture gave rise  
23 to litigation filed by Capt. Bohannon, in behalf of the boat,  
24 against Korean Wan Yang Fisheries and others seeking damages  
25 well in excess of \$1,000,000.

26 Finally, in January of 1984 Capt. Bohannon, after

Page

4 - AMENDED DISCLOSURE STATEMENT

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Portland, Oregon 97201  
Telephone 241-2300

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1 reviewing the calendar year-end financial records of the corpora-  
2 tions and the Fishing Vessel Neahkahnne, determined that the  
3 boat could not continue to fish in light of its existing debt  
4 obligation. The decision was made to offer the boat to Willamette  
5 Production Credit Association in a "friendly foreclosure."

6 In the meeting surrounding that transaction, Willamette Production  
7 Credit Association and Capt. Bohannon concurred that a better  
8 alternative would be a Chapter 11 bankruptcy proceeding under  
9 the terms of which Willamette Production Credit Association's  
10 security would be deemed diminished. The Chapter 11 Petition  
11 in this proceeding was filed on January 4, 1984.

12 Since the filing of the Petition, the Neahkahnne has  
13 been a lead boat in a fleet fishing in a joint venture with  
14 the Japanese corporation, Nippon Nissui Son. As indicated by  
15 the financial statements for the vessel, the joint venture has  
16 allowed the vessel to pay its current expenses and some debt  
17 service to Willamette Production Credit Association (the Court  
18 ordered, during the interval between filing and approval of  
19 the plan, the payment of 20 percent of the catch proceeds to  
20 WPCA). With the concurrence of WPCA, substantial maintenance  
21 and repairs have been completed since the filing of the Petition.  
22 The boat is in safe and competitive condition and should be  
23 in a posture to fish productively in 1987 and the following  
24 seasons. The financial statements of the vessel are attached  
25 and depict operations since the filing of the Petition. The  
26 vessel continues to show a negative net worth.

Page

5 - AMENDED DISCLOSURE STATEMENT

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CHAPTER 7 ALTERNATIVE

In order to allow the creditors to evaluate whether the plan will provide creditors an amount equal to or greater than that which would be received in a Chapter 7 liquidation, the following financial information concerning the balance sheet of the Neahkahnie is provided. This information includes all pre-filing debts at their current levels. See Exhibit A, attached.

CLAIMS AGAINST NEAHKAHNIE

The schedules filed in this case reflect secured claims against the Fishing Vessel Neahkahnie in the amount of \$2,220,897.25, unsecured claims without priority of \$102,932.55, and no taxes owed to any taxing authorities.

WPCA, Amfac and Eide have ship's mortgages which constitute liens and security interests on substantially all of the Neahkahnie's assets. Amfac and Eide both hold personal guarantees of the principal shareholder of the corporations constituting the joint venture which owns and operates the Fishing Vessel Neahkahnie, Capt. Frank B. Bohannon. The Neahkahnie and WPCA contend that the value of the vessel is less than the amount owed to WPCA. Inasmuch as Amfac and Eide both hold personal guarantees of Capt. Frank Bohannon, Amfac and Eide have elected to exercise their rights against Capt. Bohannon under the personal guarantee. Capt. Bohannon has entered into separate settlements with Amfac and Eide under which he will personally pay to Amfac and Eide \$62,500 and \$32,500, respectively. Except as to the proceeds of the Korean litigation, later discussed, Amfac and Eide have

1 agreed not to participate as unsecured creditors in the plan.  
2 In that regard, Amfac and Eide will be deemed to be unsecured  
3 creditors under Class 4 of the Debtor's Plan in the amounts  
4 of \$53,500 and \$57,500, respectively.

5 WPCA shall be deemed to be the sole secured creditor  
6 (Class 1) in the amount of \$1,124,590.43.

7 Finally, the Neahkahnne, by and through Capt. Bohannon,  
8 has reserved its right to object to claims. The claim of Northwest  
9 Marine & Ironworks is objected to in its entirety based upon  
10 the results of a marine survey conducted by John Murdoch indicating  
11 that the charges of Northwest Marine & Ironworks were excessive.  
12 Northwest Marine & Ironworks is itself a debtor-in-possession  
13 in a Chapter 11 bankruptcy, has not participated in the proceedings  
14 and has indicated no intention to further assert its claim.

15 As to the claim of Gourock Division, Wire & Rope Industries,  
16 Ltd., one fishing net and one-half of one fishing net were,  
17 pre-filing, offered for return to Gourock as defective. No  
18 credit has been granted by Gourock for those defective nets.  
19 It is the position of the Neahkahnne and Capt. Bohannon that  
20 a credit, the size of which is to be determined, should be given  
21 for the returned nets. Finally, the Fishing Vessel Neahkahnne  
22 maintains a claim against Krupp Atlas, Elektronik based upon  
23 the fact that the catch indicator system which forms the subject  
24 of its claim failed in its use.

25 SUMMARY OF PLAN OF REORGANIZATION

26 The following is intended as a summary of the plan

1 only. However, it is not intended as a substitute for careful  
2 reading of the plan itself.

3 The plan provides for the creation of four classes  
4 of creditors' claims. In addition to the four classes of claims,  
5 the plan provides for payment of administrative and priority  
6 creditors. In this case, the priority creditors are likely  
7 to include attorneys' fees of the Neahkahnne, certain taxes,  
8 wages to the extent allowed and all current operating expenses  
9 incurred after the filing of the Petition and prior to the confirm-  
10 ation date. The remaining claims are classified as described  
11 below and are to be paid in the following manner:

12 Class One. The secured claim of WPCA. The plan provides  
13 that WPCA will agree to a discharge of the vessel from its Chapter  
14 11 status in return for the vessel executing an amended first  
15 preferred ship's mortgage in the amount of \$1,024,590.43 bearing  
16 interest at the rate of 12.5 percent per annum (fixed) and amortized  
17 over 10 years. The entire principal balance and accrued interest,  
18 if any, shall be due 36 months from the date of the instrument.  
19 In addition, WPCA will receive the functional equivalent of  
20 a \$100,000 second preferred ship's mortgage also bearing interest  
21 at the rate of 12.5 percent per annum (fixed) with annual payments  
22 of principal and interest of not less than \$30,000 per year.  
23 This note and mortgage shall also be due and payable in full  
24 (principal and accrued interest) 36 months from the date of  
25 the instrument. To secure payment of the foregoing sums, the  
26 vessel will assign to WPCA 20 percent of its catch proceeds

1 during each year in which the instruments are in effect, to  
2 be applied 90 percent to the first ship's mortgage  
3 and 10 percent to the second ship's mortgage. Regardless of  
4 the amount of such catch set aside, the total payments made  
5 to WPCA on the two instruments shall be not less than \$255,000  
6 per year. In addition, WPCA shall retain an interest in the  
7 proceeds of the litigation filed by the Fishing Vessel Neahkahnne  
8 and Capt. Bohannon, individually, against its prior Korean joint  
9 venture partner.

10 Class Two Claim. The claim of Krupp Atlas, Elektronik,  
11 which has been disputed herein, shall be separately classified  
12 as a Class Two Claim. Krupp Atlas claims to be a secured creditor  
13 and had filed a motion in which it sought to determine its status  
14 as a secured creditor which would have entailed a hearing to  
15 determine value. In addition, the Fishing Vessel Neahkahnne  
16 had noted this claim as disputed and had indicated its intention  
17 to file an adversary complaint. Finally, Krupp had alleged  
18 that it had relied upon the credit of Capt. Bohannon personally  
19 in providing goods and services to the vessel and had sought  
20 to impose personal liability on Capt. Bohannon.

21 In order to avoid litigation on all of the foregoing  
22 issues and to expedite confirmation of the Plan herein, Krupp  
23 shall be separately treated as a Class Two creditor. As such,  
24 it will receive, in consideration of its releasing its right  
25 to any share of the Korean proceeds described above, the amount  
26 of \$2,500 from the Fishing Vessel Neahkahnne and other consider-

1 ation from Capt. Bohannon in consideration of Krupp releasing  
2 its claim of personal liability. In addition, Krupp will return  
3 to the Fishing Vessel Neahkahnne two catch indicator "eggs"  
4 in its possession and which are the property of the Fishing  
5 Vessel Neahkahnne.

6 Class Three Claim. The uncontested claims of the  
7 Class Three creditors (Gourock and Northern) shall each receive  
8 payments in the amount of \$2,500 cash, in addition to their  
9 participation in the proceeds of the Korean litigation as set  
10 forth in the description of the Class Four Claims, below.

11 Class Four Claims. Class Four Claims will include  
12 the balance of the claims of WPCA, Amfac, Eide, Gourock and  
13 Northwest Marine. For the purposes of this class, the balance  
14 of the claims of Amfac and Eide shall be deemed to be the amount  
15 of their secured claims, less the amounts paid personally by  
16 Capt. Frank Bohannon. Class Four claimants shall receive, as  
17 a distribution, a share of the Korean litigation proceeds, if  
18 any, as follows:

19 (a) There shall be first paid attorneys' fees and  
20 expenses of litigation;

21 (b) There shall then be paid to Capt. Frank Bohannon  
22 25 percent of the remaining balance;

23 (c) There shall then be paid to WPCA the lesser of  
24 \$100,000 or the remaining principal balance of the debt  
25 described in paragraph 2(b) of the letter agreement between  
26 WPCA and the Fishing Vessel Neahkahnne dated June 12 and

Page

10 - AMENDED DISCLOSURE STATEMENT

RAGEN, TREMAINE, KRIEGER, SCHMEER & NEILL  
2300 First Interstate Tower  
Portland, Oregon 97201  
Telephone 241-2300

NWMAR134039

1 13, 1986, and appended as an exhibit to the Amended Plan  
2 of Reorganization herein;

3 (d) Ten percent of the remaining sum shall be paid  
4 to the Class Four Creditors herein prorata (in the proportion  
5 their Class Four Claim bears to the total of all Class  
6 Four Claims);

7 (e) The balance to be applied to the capital accounts  
8 of the Fishing Vessel Neahkahnne to be used as working  
9 capital, for capital improvements and for debt reduction  
10 in such proportions as Capt. Frank Bohannon shall deem  
11 to be in the best interest of the vessel.

12 The above is intended only as a summary and brief  
13 description of the Plan. Many operating provisions of the Plan  
14 which may have an impact upon treatment of specific claims may  
15 have been omitted from this brief description. Therefore, the  
16 plan should be fully and carefully read to determine how the  
17 specific claim that is held by the creditor is to be treated  
18 under the Plan.

19 RISK INVOLVED IN NEAHKAHNIE'S  
20 BUSINESS AND IN BEING PAID  
21 PURSUANT TO PLAN

22 The Neahkahnne has proposed this plan in good faith,  
23 believes that it is feasible and that it will provide unsecured  
24 creditors with a greater return than they could receive in a  
25 Chapter 7 liquidation proceeding under the United States Bankruptcy  
26 Code. However, the ultimate success of the plan is subject  
to all of the risk factors inherent in the operation of a business

Page

11 - AMENDED DISCLOSURE STATEMENT

RAGEN, TREMAINE, KRIEGER, SCHMEER & NEILL  
2300 First Interstate Tower  
Portland, Oregon 97201  
Telephone 241-2300

NWMAR134040

1 engaged in Bering Sea bottom fishing. As with all equipment,  
2 fishing vessels are subject to breakdowns. During breakdown  
3 periods substantial income may be lost. The Neahkahnie is also  
4 subject to the unpredictable nature of the weather. Offshore  
5 storms, particularly in the Bering Sea, may limit catches or  
6 cause a complete cessation of fishing operations. Further,  
7 the fishery in the Bering Sea is subject to various state and  
8 federal regulations as well as international treaty provisions.  
9 Such provisions may prohibit the Neahkahnie from fishing for  
10 specific species of fish or at specific times. In addition,  
11 although Chapter 11 reorganizations have become common for fisher-  
12 men, some businesses, including some purchasers of fish products,  
13 may refuse to deal with the Neahkahnie for the reason that the  
14 Neahkahnie is proceeding under Chapter 11 of the United States  
15 Bankruptcy Code or because the Neahkahnie has not previously  
16 fully paid amounts which were due such person. Also, the fishing  
17 industry is inherently unstable. Fluctuations in demand and  
18 price may make operations more or less profitable than such  
19 operations are now. Finally, the Fishing Vessel Neahkahnie  
20 relies principally on foreign flag joint ventures for its income  
21 stream. There is increasing competition among U.S. flag fishing  
22 vessels for participation in such joint venture agreements.  
23 The Neahkahnie has no guaranty that it will be able to engage  
24 joint venture contracts for each of the years in which this  
25 plan shall be in effect. Further, should Congress or the courts  
26 reduce or eliminate fish allocations to certain foreign nations

1 in U.S. waters, such joint ventures would become impossible  
2 and the market for the Neahkahnie's catch would be eliminated.

3 CONCLUSION

4 Please read the disclosure statement and plan carefully.  
5 After a decision is made, please vote by using the attached  
6 ballot.

7  
8  
9 Capt. Frank B. Bohannon  
10 Signed by Milton R. Stewart, his attorney,  
11 in place of Capt. Bohannon who was  
12 unavailable for signing at the time  
13 of the filing of this document. Capt.  
14 Bohannon reserves the right to replace  
15 this final page with a page on which  
16 his actual signature appears if requested  
17 by the Court or any creditor.  
18  
19  
20  
21  
22  
23  
24  
25  
26



F/V NEAHKAHNIE  
NEAHKAHNIE FISHERIES, INC.  
NORTHERN TRAWLERS, INC.

COMBINED STATEMENT OF ASSETS, LIABILITIES  
AND EQUITY (DEFICIENCY IN ASSETS) -  
INCOME TAX BASIS  
JANUARY 31, 1986

ASSETS

Cash		\$ 134,679
Fishing vessel and other equipment	1,680,340	
Less: Accumulated depreciation	<u>(851,396)</u>	828,944
Capital construction fund basis reduction		<u>100,741</u>
		<u>\$1,064,364</u>

LIABILITIES AND EQUITY (DEFICIENCY IN ASSETS)

<b>Liabilities:</b>		
Mortgage notes and contracts payable		\$1,235,362
Other liabilities		<u>64,546</u>
		1,299,908
<b>Equity (Deficiency in Assets):</b>		
Owners' investment		219,369
Accumulated adjustments account	(262,671)	
Other accumulated income (deficit)	(192,242)	<u>(454,913)</u>
		<u>(235,544)</u>
		<u>\$1,064,364</u>

See accountants' compilation report.

F/V NEAHKAHNIE  
NEAHKAHNIE FISHERIES, INC.  
NORTHERN TRAWLERS, INC.

COMBINED STATEMENT OF REVENUE AND EXPENSES -  
INCOME TAX BASIS  
FOR THE YEAR ENDED JANUARY 31, 1986

REVENUE

Gross sales	\$1,727,891
Interest and other income	22,436
Gain from sale of equipment	<u>20,523</u>

TOTAL REVENUE	\$1,770,850
---------------	-------------

EXPENSES

Capital construction fund deposits	\$ 573,313
Crew share	426,790
Fuel and oil	185,442
Interest	171,748
Repairs and maintenance	133,268
Depreciation	113,788
Insurance	87,060
Food	22,675
Professional fees	9,505
Truck and travel	8,647
Office expense	6,560
Tackle and supplies	6,534
Moorage and dues	5,171
Miscellaneous	<u>178</u>

TOTAL EXPENSES	(1,750,679)
----------------	-------------

NET INCOME	<u>\$ 20,171</u>
------------	------------------

See accountants' compilation report.

JOB NO. ▶ 7001

# NORTHWEST MARINE IRON WORKS

5555 N. CHANNEL AVE., BLDG. 2 • PORTLAND, OR. 97217  
MAILING ▶ P.O. BOX 3109 • PORTLAND, OR. 97208  
PHONE: (503) 285-7557 • TWX: 910-464-6107 • NORMARINE PTL



ORDERED FOR CRAFT  
HUGENT 14

VENDOR  
PRIESTLEY OIL & CHEMICAL CO. 63680 ( 1 )  
PO BOX 12570  
PORTLAND, OR 97212

DATE 7/15/86  
TERMS  
F.O.B.  
SHIP VIA DELIVER  
DUE DATE 7/15/86

ENTRY NO.	JOB ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE	STATUS
				U.S.S. CUSHING		
001	2643A	13517	GAL	CHEVRON 100 TEP TURBINE OIL, BULK, MFD IN ACCORDANCE WITH MIL-L-17331 (MILITARY SYMBOL 2190 TEP)  NOTE: PROVIDE ANALYSIS OF OIL AND CERTIFICATE OF CONFORMANCE	2.3700	C
CONFIRMED B. SMOCK (503) 288-5294 32,035.29						C
INSTRUCTIONS LUBE OIL						

1. Render invoices in duplicate.
2. Delivery dates specified on this purchase order are based on buyer's production schedule and must be strictly adhered to. If you cannot fill order as specified advise us immediately.
3. OUR PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES, CORRESPONDENCE, SHIPPING PAPERS, INCLUDING FREIGHT BILLS AND BILLS OF LADING, AND ALL PACKAGES.

**PURCHASE ORDER NO. ▶**  
**SHOW THIS NUMBER ON INVOICE**

41418 -  
PAGE 1

R.F.P. NO. ▶ 66364

BY HUGENT  
BUYER

EXCDD 10  
AUTHORIZATION

BY BRAMAN HORN  
NORTHWEST MARINE PURCHASING AGENT

AUTHORIZATION

NWMIW - EQUAL OPPORTUNITY EMPLOYER  
NO. 112 REV. 9/85

\*\*\*\*\*  
\* SHIP TO: NORTHWEST MARINE - SWAN ISLAND \*  
\* CENTRAL RECEIVING, BUILDING 2 \*  
\* 5555 N. CHANNEL AVENUE \*  
\* PORTLAND, OR 97217 \*  
\*\*\*\*\*

NWMAR134045



July 2nd 1986.

Mr. Robert Huget,  
Northwest Marine Iron,  
Portland, Oregon.

This is to certify that the Turbine Oil 100 TEP  
delivered to you on our Invoice number 57690  
dated 7/02/86 meets Military Specification  
Mil-L-17331 F Symbol 2190 T.E.P.

This product has been blended by Chevron U.S.A.  
at their Richmond Beach facility.

Respectfully,  
PRIESTLEY OIL & CHEMICAL CO. INC.,

A handwritten signature in cursive script, reading "Richard B. Marquand".

Richard B. Marquand.  
Dispatcher.

RBM/pg



Distributors of Chevron Petroleum Products, Industrial Chemicals,  
Dry Cleaning & Laundry Supplies  
2429 North Borthwick Avenue, Portland, OR 97227-1776, Telephone (503) 288-5294  
P.O. Box 12570, Portland, OR 97212-0570, OR WATS 1-800-422-5069

NWMAR134046

# Nestley

NESTLEY CHEMICAL CO., INC.

100 N. BORTON ST. PORTLAND, ORE. 97208

Phone 288-6281

NORTHWEST HARP  
PEORIA, ILL. 61659  
PORTLAND, ORE. 97208

1-714-283-1111

INVOICE NUMBER

57690

SOLD TO

SUPPLY

7-2-56	TAX CODE	CUSTOMER ORDER NO. 41418	CHARGE	CHECK	CASH	TERMS NET 30 DAYS
--------	----------	--------------------------	--------	-------	------	----------------------

QUANTITY ORDERED	QUANTITY SUPPLIED	DESCRIPTION	CODE	PRICE	AMOUNT
2.194-1-F	898	LACQUER THINNER N			
		FLAMMABLE LIQUID NA 1142			
2.196-1-F	1155	CHEVRON SOLVENT			
2.201-1-F	1116	CHEVRON THINNER N			
2.316-2-F	885	FLAMMABLE COMBUSTIBLE LIQUID			
2.316-4-F	885				
2.316-6-F	885				
TOTAL				2.37	

TERMS: PAYMENTS DUE ON OR BEFORE 10TH OF MONTH FOLLOWING PURCHASE. THANK YOU.

FINANCE CHARGE: 18% ANNUAL PERCENTAGE RATE (50¢ minimum), may be assessed on any Amount Due, with interest compounded monthly.

2-194-1-F	898	Ø						Ø4
2-196-1-F	1155	Ø						Ø4
2-201-1-F	1116	Ø						Ø4
2-316-2-F	885	Ø						Ø4
2-316-4-F	885	Ø						Ø4
2-316-6-F	885	Ø	16 Ø Ø	PTT	3			Ø4

PACKING SLIP

**LUBE OIL ON-LOAD ABOARD  
USS CUSHING (DD-985)**

**CHRONOLOGY**

- |     |                                                                                                                 |            |
|-----|-----------------------------------------------------------------------------------------------------------------|------------|
| 1)  | Initial loading of lube oil.                                                                                    | 02 July 86 |
| 2)  | Initial awareness of oil contamination.                                                                         | 02 July 86 |
|     | -Notified Priestly of potential problems and viewed delivery trucks.                                            |            |
| 3)  | Initial request for direction made to Chevron relative to precedure required to clean oil/ship.                 | 03 July 86 |
| 4)  | Chevron directs removal of oil from ship.                                                                       | 03 July 86 |
| 5)  | Off-load initial oil load.                                                                                      | 05 July 86 |
| 6)  | Initial batch of flushing oil on-loaded (Pale Oil).                                                             | 07 July 86 |
| 7)  | NMIW request for knowledgeable on-site technical representative from Chevron to be brought in.                  | 07 July 86 |
| 8)  | Flush procedure received from Chevron.                                                                          | 08 July 86 |
| 9)  | Begin flush with Pale Oil.                                                                                      | 09 July 86 |
| 10) | Complete initial flush sequence; off-load flushing oils.                                                        | 10 July 86 |
| 11) | Begin on-load of Turbine Oil 100; oil discovered to be similarly contaminated.                                  | 10 July 86 |
| 12) | Off-load second batch of contaminated oil; begin flush with new oil (Turbine Oil).                              | 11 July 86 |
| 13) | Turbine Oil flush complete.                                                                                     | 12 July 86 |
| 14) | New Turbine Oil received from Richmond, California Refinery and loaded into ship. "Strike Down" by Ship's crew. | 12 July 86 |
| 15) | Vessel again ready for unlimited operation with "clean" oil.                                                    | 13 July 86 |

THE OREGONIAN, TUESDAY, OCTOBER 28, 1986

# Port's losses mount higher than expected

By JUDY BOOKS  
Copyright

(b)(4) copyright

Copyright

# Measure 9 passage would halt port's capital projects, official says

By IAN WILKERSON  
Copyright

Copyright



Port of Portland

Portland Ship Repair Yard



THE OREGONIAN, TUESDAY, OCTOBER 28, 1986

# Port's losses mount higher than expected

By JUDY ROOKS

Copyright

Copyright

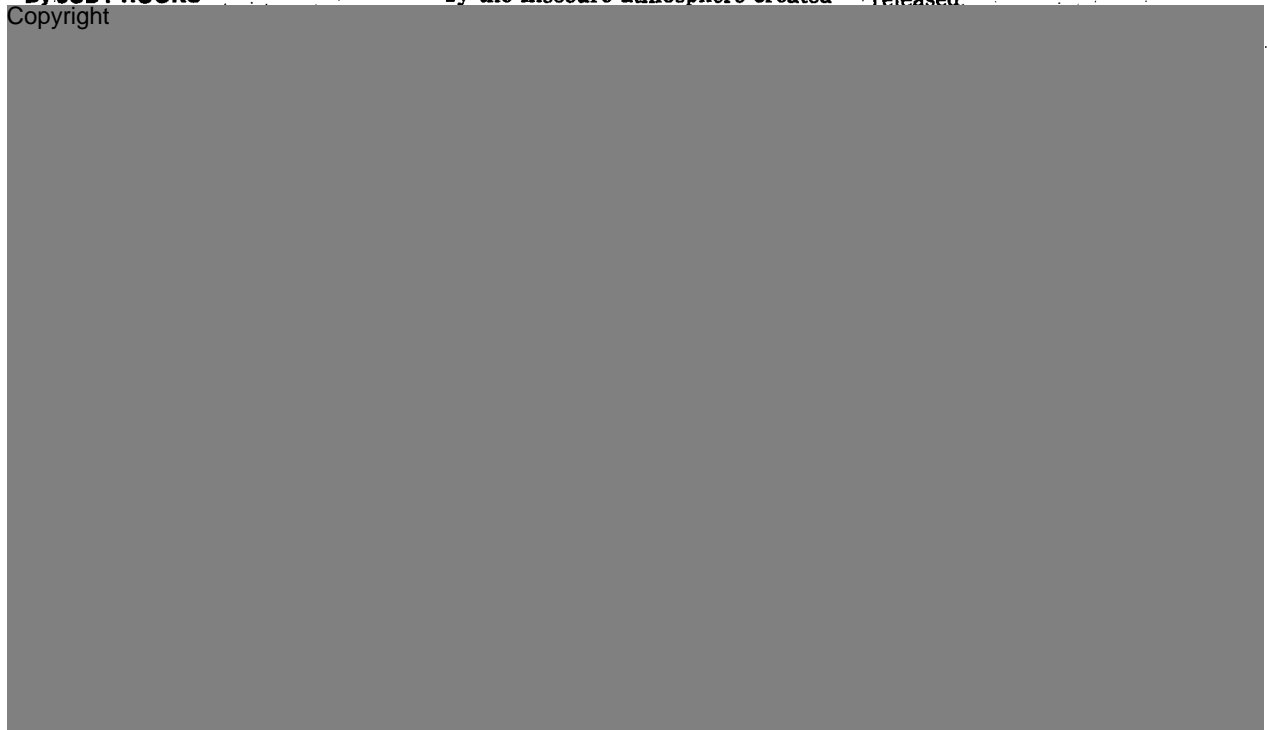
Copyright

THE OREGONIAN, WEDNESDAY, OCTOBER 29, 1986

# Dispute sparks protest at shipyard

By JUDY ROOKS  
Copyright

by the insecure atmosphere created released



Port of Portland

Portland Ship Repair Yard

NWMAR134052

# Shipyard company asks relief

By JUDY ROOKS

Copyright

Copyright

# Raychem

RAYCHEM CORPORATION  
MENLO PARK, CALIFORNIA  
415/361-3333 TWX: 910-373-1728  
PAGE 1 OF  
SALES ORDER NUMBER: A56267  
FOR INQUIRY PLEASE CONTACT:

REPORT NUMBER = D47-R31-A

INVOICE DATE  
07/30/86

INVOICE NUMBER  
Q02809

SHIP CO-ORD		SHIP VIA		SHIPPING TERMS		SALES CO-ORD		ORDER DATE		BUYER		CUSTOMER PURCHASE ORDER NUMBER			
UPS - SURFACE		FOB MENLO PAR		HRE		07/29/86		RON		42324		REP #0044			
SHIPPING REFERENCE NUMBER		PD/COL		DATE SHIPPED		A/B NUMBER		CUSTOMER SOLD TO		PAYMENT TERMS					
UPS00220		PPD		07/30/86		82515		82515801		01		NET 30 DAYS			
SHIPPING MARKS				SHIP TO				SOLD TO							
BELLEVUE WA 348 SHIP POINT: MENLO PARK SHIPPER NUMBER				04 NORTHWEST MARINE CENTRAL RECEIVING-BAY 2 5555 NORTH CHANNEL AVENUE PORTLAND OR 97217				NORTHWEST MARINE P.O. BOX 3109 PORTLAND OR 97208							
REMIT TO: RAYCHEM CORPORATION FILE #11344, LOS ANGELES, CALIF. 90074 PC: 2 WT: 38															
ITEM NO.	QUANTITY ORDERED	U/M	DESCRIPTION		UNIT PRICE	PER	QUANTITY BACK ORDERED	QUANTITY SHIPPED	U.S. DOLLARS						
01	280	FT	15QTV1-C C79381 ETP		7.55	FT	0	280	2114.00						
02	2	RL	GT66 GLASS TAPE C77220 EDC		3.45	RL	0	2	6.90						
03	1	PC	PMK-BLE 535471 EDA		6.30	PC	0	1	6.30						
04	2	PC	PMK-BLP 704433 EDA		16.80	PC	0	2	33.60						
05	1	PC	PMK-GC-10 666598 EBE		.00	PC	0	1							
								FREIGHT :		8.97					
**THIS SHIPMENT COMPLETES YOUR ORDER, THANK YOU**															
									2169.77		08/30/86				

We certify that the materials covered by this invoice were produced in conformity with the Fair Labor Standards Act of 1938, as amended, and the regulations and orders of the United States Department of Labor. The terms and conditions of this sale are those stated on both sides of this invoice.

PAY THIS AMOUNT →

NWMAR134054

# NWMIW REORGANIZATION PLAN ELEMENTS

ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
1) Generation of Cash Flows	<p>A) Improve system for invoicing and collecting receivables:</p> <ul style="list-style-type: none"> <li>1) Government contracting and billing</li> <li>2) Commercial contracting and billing</li> <li>3) Job shop operations</li> <li>4)</li> </ul> <p>B) Aggressively work Government contract REAs</p> <ul style="list-style-type: none"> <li>1) Duluth REA</li> <li>2) Cushing - Negotiate change orders  REAs development  Cheveron oil</li> <li>3) Storis REA</li> </ul> <p>C) Asset sales</p> <p>D) RTV's on Duluth, Storis, and Cushing materials</p> <p>E) Resolution of inventory levels, liquidation of excess inventory.</p>		

# NWMIW REORGANIZATION PLAN ELEMENTS

ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
2) Reduction of Overhead Costs	<p>A) Size organization to business plan markets and projected levels of revenue.</p> <p>B) Develop specific goals and working plans to reduce/control elements of production and G&amp;A overhead costs.</p>		
3) Develop Effective Support Systems	<p>A) Improve and automate accounting systems and financial statements.</p> <p>B) Install effective material management and control system.</p> <p>1) Purchasing control &amp; purchasing authority</p> <p>2) Inventory control</p> <p>3) Warehousing</p> <p>4) Data support systems</p> <p>a) P.O. systems</p>		

# NWMIW REORGANIZATION PLAN ELEMENTS

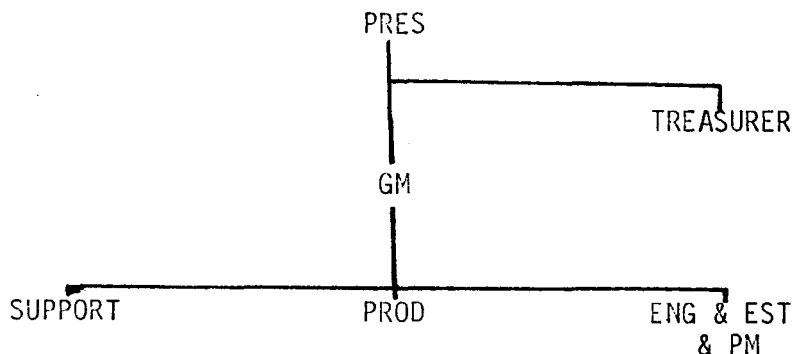
ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
3) Develop Effective Support Systems (con't)	<p>C) Develop effective production planning, project management and production control systems.</p> <ul style="list-style-type: none"><li>1) Production planning</li><li>2) Project management (Matrix)</li><li>3) Job control &amp; tracking</li><li>4) Analyze and apply "Lessons Learned" past projects</li></ul> <p>D) Improve job costing system for timeliness and accuracy of job costs for reporting and job control.</p> <p>E) Develop timely reporting systems</p> <ul style="list-style-type: none"><li>1) Daily status of each project in progress</li><li>2) More effective &amp; timely WIP reports</li><li>3) Material control status reports</li><li>4) Cash flow control and summary reporting</li><li>5) Overhead cost control and summary reporting</li><li>6) Financial status reporting</li><li>7) Payable status reporting</li></ul>		

# NWMIW REORGANIZATION PLAN ELEMENTS

ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
4) Estimating and Bidding System	<p>A) Develop a more effective estimating system.</p> <p>1) Automated support for estimating parameters</p> <p>2) Analysis of historical results for estimating parameters.</p> <p>3) Combine production planning and estimating to improve production and bidding performance.</p> <p>4) Develop estimating expertise through cross training and communications.</p>		
5) Develop Business Base Market/ Intelligence Plan	<p>A) Develop and display on a real time basis all known forthcoming projects available for bid.</p> <p>Develop and display results of previous bids along with analysis of competition.</p> <p>B) Develop and execute aggressive plan to improve position in available markets.</p> <p>C) Develop and maintain a knowledge base of competitors' facilities and ongoing contracts.</p>		
6) Labor Contract	<p>A) Move to position company with a labor agreement that gives complete control of the work place and provides an <b>EFFECTIVE</b> labor rate of \$10.00 per hour.</p>		



# NWMIW REORGANIZATION PLAN ELEMENTS

ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
7) Establish an Effective Company Planning and Management Team	<p>A) Energize following organization with clear definition of responsibility and authority.</p>  <pre> graph TD     PRES --- GM     PRES --- TREASURER     GM --- SUPPORT     GM --- PROD     GM --- ENG_EST_PM[ENG &amp; EST &amp; PM]           </pre> <p>B) Establish policies and systems to gain control of organization and operations and costs.</p> <p>C) Establish firm accountability for performance.</p> <p>D) Establish and aggressive ongoing management planning and communications system.</p>		
8) Plant and Equipment	<p>A) Develop plan to project and maintain plant &amp; equipment at minimum cost within acceptable levels.</p>		

# NWMIW REORGANIZATION PLAN ELEMENTS

ITEM/SECTION	ACTION/COMMENTS	RESP.	DATE
9) Plant Security	A) Institute immediate measures to protect plant, equipment and supplies.		
10) Information Security	A) Institute procedures to control access to and dissemination of sensitive company information.		



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

COLEMAN \_\_\_\_\_

MILLER \_\_\_\_\_

RETURN TO \_\_\_\_\_

September 15, 1987

David Neset  
CLN, Inc.  
707 SW Washington, Suite 1460  
Portland OR 97205

## PSRY PAINTING AND SANDBLASTING FACILITY

PSRY has received your unsolicited proposal for cooperative management of a painting and sandblasting facility to be housed in Building 73. I am giving your proposal serious consideration because:

- o Only if "on shore" painting and sandblasting operations are performed in an approved, controlled environment can we be assured of DEQ's continued support for work performed on vessels at berth or drydock.
- o A single, consolidated facility capable of painting and surface preparation (copper slag, sandblast, steel shot and glass bead) could be efficiently utilized by a number of contractors and thus avoid duplication of investment.
- o The concept, as you presented it, would offer ownership and cooperative management to PSRY contractors.

Provided that sufficient interested is demonstrated through formal letters of support from PSRY contractors, marketing or management agreements and market survey data, PSRY intends to encourage efforts to meet DEQ requirements through this kind of service. PSRY's support could include purchasing of painting and sandblasting equipment,

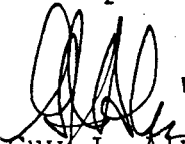


Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134061

David Neset  
September 15, 1987  
Page 2

refurbishing equipment and/or acquiring new equipment.  
PSRY will host a meeting on Monday, October 5, 1987 at  
10:00 AM at the PSRY conference room to develop the  
concept further. Thank you for your inquiry.



Guy J. Alvis, General Manager  
Portland Ship Repair Yard

/kw

(WK #351)

cc: Bill Zavín, Northwest Marine Iron Works  
Doug Watson, WSI  
Loy Kahler, Cascade General  
Darryl Winnegar, C & O  
Tom Maples, Marine Propulsion Systems



# Port of Portland

Box 3529 Portland, Oregon 97208

503/231-5000

TW/X: 910-464-5105

September 29, 1987

Bill Zavín, Northwest Marine Iron Works

Doug Watson, WSI

Loy Kahler, Cascade General

Darrell Winegar, Crosby & Overton

Tom Maples, Marine Propulsion Services

David Neset, CLN, Inc.

Dave Cheramy

Mic Dorrance

Ray Eggersgluss

Jack Sabin

Jeff Twine

## MEETING NOTICE

PAINTING & SANDBLASTING ALTERNATIVES/PSRY BUILDING 73

1330 HOURS, MONDAY, OCTOBER 5, 1987

PSRY CONFERENCE ROOM

### I. BACKGROUND

- DEQ Expectations of PSRY
- Current Operating Practices, Problems

Jack Sabin  
Jeff Twine  
Mic Dorrance

### II. BUILDING 73/PORT'S CONCERN

- Capabilities of Building 73
- Other Painting & Sandblasting
- Port's View
- Paint & Sandblasting, Grit Recycling, Paint Storage, Disposal

NWMIW, C & O  
Cascade, MPS  
Ray Eggersgluss  
Guy Alvis  
Guy Alvis

### III. PROPOSAL ON BUILDING 73

Dave Neset

- Proposed Method of Operation
- Proposed Ownership Policy
- Proposed Pricing Goal

### IV. DISCUSSION

Guy Alvis

(WK #351)



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134063



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 30, 1987

Mr. J. L. Adriaanse, Vice President  
Holland America Lines  
300 Elliott Avenue W.  
Seattle, WA 98119

**PORTLAND SHIP REPAIR YARD (PSRY)  
FLEET TARIFF DISCOUNT (REVISED) FOR  
MV NOORDAM, MV NIEUW AMSTERDAM, SS ROTTERDAM**

Thank you for sharing your time to discuss your concerns with the September 3, 1987, discount letter. We are pleased to offer the following revised fleet tariff discount for your commitment of three drydock and repair events for Holland America detailed by Northwest Marine Iron Works as follows:

<u>Ship</u>	<u>Date</u>	<u>Tariff</u>	<u>Use Fee</u>	<u>Discount</u>
MV NOORDAM	9/87	\$107,368	\$ 22,647	\$20,000
MV NIEUW AMSTERDAM	5/88	107,368	22,647	20,000
SS ROTTERDAM	5/88	176,000	102,000	45,000
Total		\$390,736	\$147,294	\$85,000

The MV NIEUW AMSTERDAM and SS ROTTERDAM amounts are best estimates at this time and will need to be refined for application of the the discounts.

Tariff No. 37-B is the applicable tariff. If the fully calculated PSRY revenue is more or less than stated in this proposal, the amount of the discount will be adjusted accordingly as a prorated percentage of the combined fleet package. The combined fleet discount percentage is the same as you have received in the past.



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134064

J. L. Adriaanse  
September 30, 1987  
Page 2

We request your written acceptance of this discount proposal and commitment of work. We will begin to apply the discount when we receive your letter.

We look forward to serving your fleet in the coming year. If you have any question, please call me toll free at (800) 547-8411, Ext. 569.



David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard

cc: William H. Zavín, Northwest Marine Iron Works  
Nick Calley, Northwest Marine Iron Works  
Guy Alvis  
Ray Eggersgluss  
Jeff Twine  
Judy Greer



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

COLEMAN \_\_\_\_\_

MILLER \_\_\_\_\_

RETURN TO \_\_\_\_\_

September 17, 1987

William Zavín  
Northwest Marine Iron Works  
5555 N. Channel Avenue, Building 2  
Portland, OR 97217

## AMENDMENT TO PSRY USE AGREEMENT/FIXED MONTHLY FEE

Over the past several months, the Port of Portland has been seeking a means of funding certain common-benefit services provided at Portland Ship Repair Yard (PSRY), including the security service and nursing station. Historically, these services have been provided by the major ship repair contractors and the Port, but no formal funding mechanism has ever been set down in writing.

The exit of Dillingham and Lockport has brought this issue to point: PSRY needed to establish a formal and equitable basis for sharing the expense. Contractors actively involved in using the PSRY facility as a prime ship repair contractor should pay for the provision of security and nursing services. The creation of a new amendment (see attached) to the PSRY Use Agreement accomplishes this goal. The amendment has been signed by Northwest Marine Iron Works, West State Inc. and Cascade General. The amendment, which requires a \$10,000 per month payment, raises a number of questions:

- Q. Do all Use Agreement holders need to sign the amendment?
- A. No. Only Use Agreement holders who want to use the PSRY facility as a prime ship repair contractor scheduling ships at repair berths and dry docks must sign the amendment and pay the monthly \$10,000 fee.




Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134066



- Q. Will those Use Agreement holders who do not sign the amendment be able to use the nursing station?
- A. Yes. Casual users of the nursing station will be assessed a fee based on services provided.
- Q. What security services are included in this agreement?
- A. Basic security only. This is 24-hour per day, 7-day per week coverage at the Main Gate and a roving patrol (approximately 4 people per shift). Extra services may be purchased by contractors at favorable rates.
- Q. What nursing services are included?
- A. Basic service only. One nurse per shift, two shifts per day, five days per week. Extra services may be purchased by contractors at favorable rates.

If you have other concerns about the amendment, please call me at 231-5526.



Guy J. Alvis, General Manager  
Portland Ship Repair Yard

Attachment

THE PORT OF PORTLAND  
SHIP REPAIR YARD USE AGREEMENT  
PORTLAND SHIP REPAIR YARD

Amendment No. 3

THIS AMENDMENT NO. 3 is entered into by and between the PORT OF PORTLAND ("Port") and \_\_\_\_\_ ("Contractor"),

W I T N E S S E T H:

WHEREAS, the Port and Contractor have entered into a Use Agreement dated \_\_\_\_\_ ("Original Agreement"), the Port entered into a Ship Repair Yard Use Agreement, hereinafter referred to as Original Agreement, with Contractor and all other Prime Ship Repair Contractors engaging in the ship repair business at the Portland Ship Repair Yard, hereinafter referred to as PSRY, permitting the use of the PSRY in common with others, setting Contractor rights and obligations, defining the maintenance, operation, and rehabilitation of PSRY, defining fees and their uses and other general provision; and

WHEREAS, the parties have negotiated certain other terms and conditions contained herein;

NOW, THEREFORE, in consideration of the mutual covenants herein, the parties agree as follows:

I.

The following shall be added as subparagraph C of Section 5.03 - PSRY Use Fee, of Article V of the Original Agreement:

C. For the right to schedule vessels at repair berths and dry docks, Contractor agrees to pay a Monthly Fixed Fee, the rate of which shall be set from time to time by the Port Commission and shall be paid to the Port as provided herein. The fixed fee provided herein shall be paid only in the event Contractor schedules docking and berthing at the PSRY. Such fixed fee initially shall be in the amount of \$10,000 per month and shall be paid within thirty days after invoicing by the Port. Sums not paid within thirty days shall bear interest at the periodic rate established by the Port from time to time for delinquent accounts. Failure to pay this fee shall constitute default of the terms of the Use Agreement and result in termination at the end of the thirty day period.

II.

This Amendment shall be effective on \_\_\_\_\_.

III.

Except as modified herein, the Original Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment  
No. 3 this \_\_\_\_ day of \_\_\_\_\_, 198\_\_.

CONTRACTOR

THE PORT OF PORTLAND

By \_\_\_\_\_

By \_\_\_\_\_  
President

By \_\_\_\_\_

By \_\_\_\_\_  
Assistant Secretary

APPROVED TO AS LEGAL SUFFICIENCY

\_\_\_\_\_  
Counsel for The Port of Portland

APPROVED BY COMMISSION:

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# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 11, 1987

William H. Zavín, President  
Northwest Marine Iron Works  
5555 North Channel Avenue  
Portland, OR 97217

J. J. Coleman, Vice President  
Northwest Marine Iron Works  
5555 North Channel Avenue  
Portland, OR 97217

## NMIW CONCERN ON PSRY MARKETING ACTIVITIES

On September 4, 1987, in a regular meeting with key PSRY staff, not including myself, you raised a concern over my conduct of marketing activities that have detrimental impact on your company. I am concerned you chose that format instead of direct contact with me; however, I will address each of your concerns as I understand them.

First, it is reported I participated in a fishing trip with Paul Murphy of West Coast Shipping, your good customer of long-standing, and representatives of West State Inc. with underlying intent to undermine the relationship between your company and West Coast Shipping. Frankly, I don't know what could be gained from this kind of activity. I have never been fishing with Paul Murphy. The information you have received is totally without foundation.

You should know Paul Murphy, George Stiehl and I have been friends since 1960. We went to school together, worked together for many years and know more about one another than we care to admit. That 27-year relationship will continue.

Second, it is reported I spoiled a deal in progress by contacting Prentiss Davis of American Hawaii Cruises and advising him to bid his upcoming work instead of awarding the work to your company. Factually, Prentiss Davis called me, as he has done infrequently to keep abreast of developments. The specific purpose of his call was to obtain the full particulars of all the PSRY users so "they all have a chance to bid on my work". When I get a call for information, I have no choice but to respond. It is my job. Again, the information you have received is not correct.



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134071

William H. Zavín  
J. J. Coleman  
September 11, 1987  
Page 2

Third, it is reported I created a drydock schedule problem that risked the relationship with both American Hawaii Cruises and Holland America Line. In fact, during the same call from Prentiss Davis, I inquired about his 1988 work and he volunteered the schedule dates for the work on the SS CONSTITUTION. I took them down and advised Davis I would submit them to Jeff Twine for inclusion in the discussion at the regular Thursday cooperative schedule meeting, which I did.

Unknown to me, since scheduling is not my responsibility, the dates were in conflict with other firm bookings. The issue has since been clearly resolved that Holland America has (and always had) first call and American Hawaii will have to adjust their schedules. This was discussed in a further call from Prentiss Davis and a confirming letter sent to him. At no time was there as question of priority. On this issue as well, the information you have received is not correct.

You should also know Prentiss Davis advised very confidentially that both the INDEPENDENCE and CONSTITUTION "will only be bid in Portland".

The PSRY marketing objective has been and will continue to be the growth and support of your business. Our efforts clearly demonstrate that and I am professionally and personally totally committed to the process.

I will be pleased to discuss these or any other concerns you might have about the PSRY marketing program. I know this provides full and factual understanding of the specific concerns.

  
David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard

cc: Denny West  
Guy Alvis



## NORTHWEST MARINE IRON WORKS

MAILING  
ADDRESS:

P.O. BOX 3109  
PORTLAND, OR 97208

5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217

PHONE: (503) 285-7557

TWX: 910-464-6107 NORMARINE PTL

September 9, 1987

Mr. Guy Alvis  
Port of Portland  
Swan Island

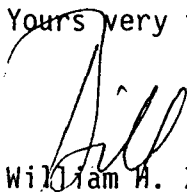
Dear Guy:

As requested, I have signed Amendment No.3 to the Ship Repair Yard Use Agreement.

I want to make sure in this submittal letter we formally repeat Northwest Marine Iron Works' concern about the addition of new players to the contractor base. Historically, two contractors, one full service and one tanker oriented, have been able to succeed and meet the objectives of the Port. The addition of players who do not bring additional business with them seems to have a dramatic and drastic adverse impact on the financial results of both the existing contractor base, and we feel, on the Port itself.

We, therefore, sign this agreement which indicates our support for the fair share of the cost concept but do not support adding additional contractors unless such contractors bring business opportunities and/or capabilities that are clearly differentiated from and incremental to the present contractor base.

Yours very truly,

  
William H. Zavín, II  
President

WHZ:dc

enc. Amendment No. 3

NWMAR134073

THE PORT OF PORTLAND  
SHIP REPAIR YARD USE AGREEMENT

PORTLAND SHIP REPAIR YARD

Amendment No. 3

THIS AMENDMENT NO. 3 is entered into by and between the PORT OF PORTLAND ("Port") and NORTHWEST MARINE IRON WORKS ("Contractor"),

W I T N E S S E T H:

WHEREAS, The Port and Contractor have entered into a Use Agreement dated July 14, 1982 ("Original Agreement"), The Port entered into a Ship Repair Yard Use Agreement, hereinafter referred to as an Original Agreement, with Contractor and all other Prime Ship Repair Contractors engaging in the ship repair business at the Portland Ship Repair Yard, hereinafter referred to as PSRY, permitting the use of the PSRY in common with others, setting Contractor rights and obligations, defining the maintenance, operation and rehabilitation of PSRY, defining fees and their uses and other general provisions; and

WHEREAS, the parties have negotiated certain other terms and conditions contained herein;

NOW THEREFORE, in consideration of the mutual covenants herein, the parties agree as follows:



I.

The following shall be added as subparagraph C of Section 5.03

- PSRY Use Fee, of Article V of the Original Agreement:

C. For the right to schedule vessels at repair berths and dry docks, Contractor agrees to pay a Monthly Fixed Fee, the rate of which shall be set from time to time by the Port Commission and shall be paid to the Port as provided herein. The fixed fee provided herein shall be paid only in the event contractor schedules docking and berthing at the PSRY. Such fixed fee initially shall be in the amount of \$10,000 per month and shall be paid within thirty days after invoicing by the Port. Sums not paid within thirty days shall bear interest at the periodic rate established by the Port from time to time for delinquent accounts. Failure to pay this fee shall constitute default of the terms of the Use Agreement and result in termination at the end of the thirty day period.

II.

This Amendment shall be effective on September 1, 1987.

III.

Except as modified herein, the Original Agreement shall remain in full force and effect.

IN WITNESS WHEREOF, the parties have executed this Amendment  
No. 3 this \_\_\_\_\_ day of \_\_\_\_\_, 198\_\_.

CONTRACTOR

THE PORT OF PORTLAND

By *William J. Janitz*  
*President & Chairman*

By \_\_\_\_\_  
President

By \_\_\_\_\_

By \_\_\_\_\_  
Assistant Secretary

APPROVED TO AS LEGAL SUFFICIENCY

\_\_\_\_\_  
Counsel for The Port of Portland

APPROVED BY COMMISSION:

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# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 2, 1987

William Lundmark  
William H. Zavín  
Douglas T. Watson

Cascade General  
Northwest Marine Iron Works  
West State Inc.

## PORTLAND SHIP REPAIR YARD (PSRY) OPPORTUNITIES AND INCENTIVES FOR NON-TRADITIONAL LINES OF BUSINESS

As part of the efforts to meet the economic development objectives of the Portland Ship Repair Yard, we will be approaching several major companies with the opportunities and incentives that will attract new, non-traditional lines of business. We want to make certain these same opportunities and incentives are available to you, the current users of the facility. They are described briefly as follows:

### OPPORTUNITY

In addition to the traditional markets pursued at PSRY, we believe we are well positioned to address new opportunities that will expand the business base:

- o MHC Second Source (9 ships \$100 million each) - Our facility can be quickly adapted to provide state-of-the-art indoor fabricating shops. Fiberglass construction will assume an increasing role in the small ships market, foreign and domestic.
- o PXM (6 ships \$60 million each) - Our facility can also quickly adapt to the indoor construction of this new opportunity. We have ample space and the land level delivery system or crane capacity to economically meet this challenge.
- o Army Large Tug Second Source (7 ships \$15 million each) - Similar to the PXM opportunity, we can also serve the needs of this program.

Opportunities and Incentives For  
Non-Traditional Lines of Business  
September 2, 1987  
Page 2

- o Factory Trawlers (15-18 ships \$25-35 million each) - This is an emerging market for the Alaska mid-ocean fishery and will lead to on-going work. PSRY is best positioned geographically and in facilities to serve this market.

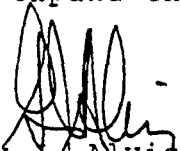
In all, we believe the opportunity to serve new markets at PSRY is very high.

INCENTIVES

The Port of Portland is able to offer several incentives which will make establishing new facilities to serve non-traditional lines of business attractive. They include:

- o Capital to develop the unique facilities which are needed to create the most competitive plant and equipment to serve new opportunities.
- o Reduction in our standard rates of charge for facilities to serve new markets.
- o Industrial Revenue Bonds for capitalization of new unique plant and equipment which would be contractor owned.
- o Participation, through reduced facility rates or other mechanisms, in the preparation of unique proposals to new markets.
- o Staging of PSRY revenue billings to match the actual flow of income from new projects in new markets until the operation is established.

These are just a few of the creative means we can offer to attract your participation in new markets at PSRY. We remain open to discuss your further ideas for incentives to expand the business base in PSRY.

  
Guy J. Alvis, General Manager  
Portland Ship Repair Yard



Port of Portland

# PSRY MarketShare

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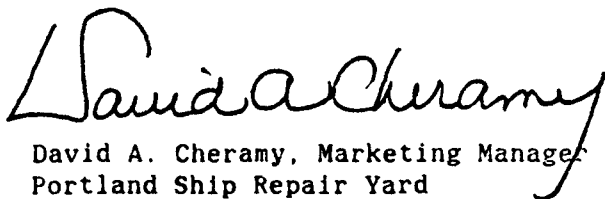
August 11, 1987

**PSRY Commission Task Force**

Guy Alvis  
Ivan Chandler  
Tom Brumm  
Dan Dinges  
Ray Eggersgluss  
Peter Friedmann  
Bob Kiefer  
Jim McCaul  
Chuck McKeown  
Denny West  
Tom Zelenka

**PORTLAND SHIP REPAIR YARD (PSRY)  
NEW CONTRACTOR CANDIDATE ASSESSMENT**

Attached are the one page summary assessments of the eight potential U.S. candidate contractors for PSRY. They are the product of the two-day work session (July 9-10, 1987) and follow-up sessions with Mr. Jim McCaul, President, International Maritime Associates, Inc. Please let me know if you have additional comments to offer.



David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard

Attachments

NWMAR134079

NATIONAL STEEL AND SHIPBUILDING COMPANY  
A Morrison Knudsen Company

POINTS OF CONTACT

William J. Deasey, President and CEO, MK, Boise, ID  
Richard H. Vortmann, President and CEO, NASSCO, San Diego, CA  
Trevor Lucey, VP Marketing, NASSCO, San Diego, CA

MK Directors: William Agee, William Douce, Robert McCabe, Velma Morrison, J.L. Scott, G.W. Gilfillan, K.M. Price, R.H. Vortmann

MARKET OPPORTUNITY AT PSRY

- Low technology ship construction, SWATH, tugs, processors
- Commercial ship repair, large tankers
- Cruise ship repair
- Everett/Puget Sound homeported naval ship repair including aircraft carriers and submarines
- On-shore and off-shore industrial fabrication
- Rail car and locomotive rebuilding and repair
- Dry dock construction for Navy replacements
- Waste management construction
- Added political support for all lines of business

VIEWPOINT

- o Shipbuilding is drying up and the repair capability at San Diego is limited to the 25,000-ton dry dock there.
- o Resistance to further investment in declining industry.
- o Current opposes efforts to remove Navy work from homeports.
- o MK has money to invest but may be considering spinning off NASSCO.
- o Current backlog of shipbuilding work is low so capacity is available in San Diego. Pursuing LSD cargo variant project.

ASSESSMENT

NASSCO (and the M-K connection) have the ability to pursue all markets available to PSRY. They have all the necessary resources and an interest in growing. There is a good possibility for success in bringing NASSCO to PSRY.

#### BATH IRON WORKS CORPORATION

A Leveraged Buy-out and Management-Owned Company, Prudential Life Insurance and Gibbons Green Van Ameronsen Ltd (Inc.)

#### POINTS OF CONTACT

William E. Haggett, President and CEO, Bath, ME  
James Blenkhorn, VP Business Development, Bath, ME  
William E. Graham, VP Sales and Marketing, Bath, ME  
Roy Reed, VP Marketing, Bath, ME

Len Thorell, former GM Todd San Pedro, now VP Bath Iron Works Corporation West Coast Operations, San Diego, CA, selling technology for foreign naval ship and submarine construction

#### MARKET OPPORTUNITIES AT PSRY

- Logistic support base for foreign naval ship construction
- Commercial ship repair
- Everett/Puget Sound homeported naval ship repair
- Completion of the USCG FRAM project (8 ships) on West Coast, if Todd stumbles. Bath has four of same job in Maine, JV with Todd.
- Quid pro quo to solve cost problems on DDG/CG for establishing a West Coast complex overhaul base.
- Low technology shipbuilding, SWATH, MHC, tugs etc.
- Added political support for current business

#### VIEWPOINT

- o Current difficulty with cost over-runs on DDG/CG programs
- o Investors concerned that company purchase was overvalued
- o Leveraged buy-out has left little or no discretionary capital
- o Engineering staff currently at overload
- o Bath sees Pacific Rim as the future for naval programs
- o Sees shipbuilding orders drying up but there is probably going to be enough on-going work to keep Bath fairly busy

#### ASSESSMENT

BIW would be a distinctive addition to PSRY. Although their resources are currently limited, they will continue as a major shipbuilding entity. The chances for success in attracting BIW to PSRY are quite good.

## NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

A Tenneco Company

### POINTS OF CONTACT

James L. Ketelson, Chairman and CEO, Tenneco, Houston, TX  
J.P. Diesel, President, Tenneco, Houston, TX  
Edward J. Campbell, President, NNSBDD, Newport News, VA  
Myriad Executive Vice Presidents and Vice Presidents

Directors: W.M. Blumenthal, J.B. Foster, B.K. Johnson, B.J. Mackin,  
Sir David Plastow, J.J. Sisco

### MARKETING OPPORTUNITY AT PSRY

- First commercial facility on the West Coast for submarine repair.
- Aircraft carrier repair
- Low technology shipbuilding
- Everett/Puget Sound homeported ship repair
- On-shore and off-shore industrial fabrication
- Pipeline construction support
- Better access to Pacific Rim foreign naval ship construction and logistic support for technology export
- Added political support for all lines of business

### VIEWPOINT

- o Looking at West Coast presence
- o Currently opposes public/private competition for Navy work
- o Has a comfortable backlog and the leading position in the industry
- o Tenneco may still be considering a NNSBDD spin off
- o Chairman is focused on the tractor line of business

### ASSESSMENT

Newport News at PSRY would be a major achievement. The chances for success in courting them are low. The opportunity is so high that it is worth the investment in time to pursue them.



## GENERAL DYNAMICS CORPORATION, ELECTRIC BOAT DIVISION

A General Dynamics Company

### POINTS OF CONTACT

Stanley C. Pace, Chairman of the Board, GD, St. Louis, MO  
Fritz G. Tovar, VP/General Manager, Electric Boat, Groton, CT  
A.M. Barton, VP/Strategic Planning, Electric Boat, Groton, CT

Directors: J.S. Crown, A.E. Jenner Jr., J.R. Mellor, Lester Crown,  
Milton Falkoff, E.H. Stein, O.C. Boileau, T.G. Ayers, H.E. Kapnick,  
D.S. Lewis, S.C. Pace, S.H. Hoch, R.W. Meyer Jr., H.F. Rogers, C.R.  
Vance

### MARKET OPPORTUNITIES AT PSRY

- Submarine repair base on the West Coast
- Submarine module fabrication
- Sophisticated naval combatant modernizations
- Added political support for all lines of business, particularly undecided defense programs, ATF, SSN-21 etc.

### VIEWPOINT

- o Already very comfortable with market position in business
- o Recently reopened Charleston facility to build sub parts to increase political base
- o Closed Quincy shipyard because of negative view of commercial opportunities
- o There is no commercial yard for subs in the Pacific
- o Known to be looking for sub maintenance operation
- o Can't pursue other lines of marine or industrial business at Groton. No room to grow or diversify technological base.

### ASSESSMENT

The incremental addition of PSRY to GD's operations will hardly be noticed. The chance for success is probably limited but worth the investment of time. The reward would be large for PSRY and existing Contractors would be least disturbed.

INGALLS SHIPBUILDING DIVISION  
Litton Systems, Inc.

**POINTS OF CONTACT**

Fred W. O'Green, Chairman and CEO, Litton, Beverly Hills, CA  
Gerald J. St. Pe, President, Ingalls, Pascagoula, MS  
R.L. Marler, VP Business Development, Ingalls, Pascagoula, MS

Directors: F.W. O'Green, Joseph T. Casey, Robert H. Lentz,

**MARKET OPPORTUNITIES AT PSRY**

- Access to Everett/Puget Sound homeported naval repairs
- Low technology shipbuilding
- West Coast base for complex overhauls and post shake down availability work on Ingalls new buildings
- On-shore and off-shore industrial fabrication
- Added political support for all lines of business including undecided defense programs

**VIEWPOINT**

- o Ingalls has a large backlog and enjoys the leadership position for naval surface combatants
- o Current facility and location limits that potential to do other things
- o Litton has the money (\$1 billion cash) to invest
- o Overall resistance to investment in a declining industry
- o West Coast base for logistic support of foreign navy shipbuilding on the Pacific Rim
- o Navy may discourage this kind of direct competition with Todd who is in bad financial shape
- o Ingalls is operationally balanced and very profitable

**ASSESSMENT**

The addition of Ingalls would be a major achievement for PSRY. The chances for success are limited, but the potential rewards are worth the time to pursue them.

## NORFOLK SHIPBUILDING AND DRYDOCK CORPORATION

A Closely Held Corporation

### POINTS OF CONTACT

John L. Roper III, Chairman of the Board, Norshipco, Norfolk, VA  
Charles Eure Jr., President, Norshipco, Norfolk, VA  
Carlos Agnese, Senior VP, Norshipco, Norfolk, VA

Directors: W.D. Payne, VP Production, L.C. Ackerman. O.R. Yates, W.H. Jory

### MARKET OPPORTUNITIES AT PSRY

- Doubling of market opportunities in the same lines of business now pursued
- Access to Everett/Puget Sound homeported combatants
- Access to further AO 177 class Phased Maintenance work as now contracted on the East Coast
- Additional political support for current business

### VIEWPOINT

- o Currently opposes efforts to release Navy homeported repair
- o Family-owned business with deep roots in Virginia
- o Undergoing internal disputes (John vs. George Roper) on how the business should be run
- o Should perceive a barrier to growth in the single current location
- o Has a single labor contract with better work rules than could be achieved in PSRY
- o Little discretionary capital for expansion

### ASSESSMENT

Norshipco is a quality company that would pursue all the current lines of business at PSRY except shipbuilding. They would be a good addition to PSRY but would be in direct competition with the current Contractors. Chances for success are good.

**TODD SHIPYARDS CORPORATION**  
A Publicly Traded Company

**POINTS OF CONTACT**

David W. Wallace, Chairman and CEO, TSC, Jersey City, NJ  
John T. Gilbride, Jr., President, TSC, Jersey City, NJ  
Clifford E. Jones, VP Resources, TSC, Jersey City, NJ

Directors: Hans K. Schaefer, D.P. Davison, H.A. Eckmann, W.H. George,  
C.D. Mallory Jr., Sir David Nicholson, R.V. O'Brien, W.H. Todd, J.T.  
Gilbride Sr., L.D. Black

**MARKET OPPORTUNITY AT PSRY**

- Close Seattle, bring their large drydock to PSRY and set up a low cost operation
- Access to large tanker work
- On-shore and off-shore industrial fabrication
- Additional political support for Navy agenda with some losses on the Washington State side

**VIEWPOINT**

- o Currently in very deep financial difficulty
- o Reorganizing to pursue navy repair work only
- o Currently opposes releasing homeported Navy repair work
- o No discretionary capital
- o Reduction in overhead forecloses pursuit of foreign naval construction
- o Looking for a partner to help bail out the company
- o Sentimentally attached to Seattle
- o Has USCG FRAM job on eight ships

**ASSESSMENT**

It will be difficult to get Todd's attention during their current financial difficulty. September 1, 1987, is a watershed date for Todd. They will have financing or declare Chapter 11 by that time. Todd would be positioned to pursue all lines of business at PSRY, including direct competition with the current contractors. Chances for success are good after finances are straightened out.

AVONDALE INDUSTRIES INC.  
Employee-owned business

**POINTS OF CONTACT**

Albert L. Bossier Jr., Chairman and CEO, AII, Gretna, LA  
Thomas M. Kitchen, CFO, AII, Gretna, LA  
Mel Colen, VP Marketing, AII, Gretna, LA

Directors: A.L. Bossier (pron "Bojay"), T.M. Kitchen, R. Brunner. C.G. Caras, D.A. Krenz, J.M. Russo, K. DuPont

**MARKET OPPORTUNITY AT PSRY**

- Expanded base of opportunity in all markets
- Currently limited to non-combatant navy and commercial shipbuilding which is at an all time low
- On-shore and off-shore industrial fabrication beyond Gulf
- Everett/Puget Sound homeported naval ship repair
- Alaska tanker fleet, AII built many of them
- Low technology shipbuilding, SWATH, processors, etc
- Added political support for current lines of business

**VIEWPOINT**

- o Employee buy-out has left little discretionary capital
- o Current dispute as to the value of assets purchased from Ogden
- o Currently non-union and anxious to stay that way
- o Not renown for thinking beyond New Orleans area
- o Already has large under-utilized facilities
- o Not technologically positioned to address foreign navy construction
- o Pursuing LSD cargo variant
- o Low backlog of business

**ASSESSMENT**

Although Avondale would be a good technological addition to PSRY, their desire to remain non-union would be problematic. Chance for success in attracting Avondale are very small.



Port of Portland

# PSRY *MarketShare*

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August 12, 1987

Guy Alvis

## PSRY MARKET UPDATE

The following is to keep you up-to-speed on some recent developments in PSRY marketing:

- o Coastal Minehunter (MHC) Program - This is the fiberglass hull minehunter project. First source award is soon to be made to Intermarine in Georgia. The process to introduce the prospective second source contractor is beginning. Notice of the first meeting on this process was passed to the Contractors. George G. Sharp will attend the meeting on our behalf.
- o Large Army Tugs - This is the program being managed by the Navy to procure two 150-foot tugs, leading to as many as 16 \$25 million units over 5 years. The proposal deadline is extended to August 24, 1987. Lockheed had a proposal ready to go. They want to unload it for a fee (possibly tied to success). Contact details were passed to NMIW. Results were negative both on the part of Lockheed and NMIW. However, NASSCO and Bath were interested if we could have come up with the proposal.
- o Southwest Marine - They have taken over the Todd San Francisco Yard lease. Turnover will occur this month. This will give SWM a meaningful presence in the Bay Area and give the Navy two contractors with drydocks in the Bay.
- o Continental Maritime - heard-on-the-street, they are in very grave financial shape. They may not even get to Chapter 11. May put Navy back to just one drydock contractor in the Bay Area.

- o Newport News - As part of all the West Coast difficulty, they have been looking for a West Coast presence. Reported they have looked at the Todd San Pedro plant as a possibility. Todd is sticking to their plan to keep Seattle and San Pedro going in the reorganized mode.
- o TBT and Canada Free Trade - Both are surfacing as issues we have to write letters about for the Oregon delegation.
- o Todd Shipyards - as mentioned in their own press release dated July 27, 1987, they may cease operating as of September 1, 1987, because their Workers Comp insurance carrier has cancelled them. Now is the time to talk to Bath about finishing the High Endurance Cutters (8) that Todd has in a joint venture with Bath (4) at PSRY. A nucleus team from Bath of not more than 20 could make it happen here. Each job is now over \$30 million.
- o Bath Iron Works - in pursuit of a specific business opportunity, we are preparing a proposal to the Bath San Diego office to provide a logistics base to support foreign naval ship construction. Bath is pursuing a number of Pacific Rim clients to construct naval combatants and will need facilities to build up modules and prepare and ship equipment entering into the programs. A specific program is for the Taiwan Navy for 12 FFG's with each costing about \$250 million. About \$50 million in modules and machinery will be shipped from the U.S. for each ship. Bath now has a contract to provide technology to the Australian Navy for diesel submarine construction. Mr. Len Thorell, VP Bath is very interested in the PSRY opportunity.
- o MSO USS IMPLICIT - there was no PSRY bidder for the \$1.2 million availability of this minesweeper. The work was awarded to Lake Union Dry Dock.

- o PSRY CONTRACTING FOR PROPOSAL - it is alarming to see the number of work opportunities not being pursued by PSRY contractors. The Large Army Tug Project and the recent 290 foot processor are specific painful examples. PSRY should consider contracting for or organizing the team to produce a full first class proposal and offer it to all takers including the existing contractors to bid the work to PSRY. The cost for a large Navy project may be as much as \$400,000. However, by having 6 or 8 bidders riding the PSRY horse, the odds of finishing first are greatly enhanced. The next opportunity for this that we have identified is the second source on the fiberglass MHC's for the Navy. The project could involve up to \$600 million over 6 years.
- o Joint Ventures - There is no likelihood the current contractor base will ever joint venture among themselves. It is also unlikely an outside firm will be willing to joint venture with them. WSI is the lone exception, and the enterprise would be limited to a commercial opportunity since they do not have an MSR to do Navy work. It is all the more important that we move forward with the process to attract a new world class contractor at PSRY.

  
David A. Cheramy  
Marketing Manager  
Portland Ship Repair Yard



PORTLAND SHIP REPAIR YARD  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

July 26, 1987 / Page 1 of 6

POLICY STATEMENT

It is the policy of the Port of Portland in administering the Use Agreement and Leases of the Portland Ship Repair Yard that qualifying general contractors will demonstrate:

1. The ability to perform, including the ability to perform quality work in the markets being pursued and the general business strength and competence to assure payment for use of Port facilities and services; and
2. The physical capacity of the yard to accommodate the business intent of the contractor to use on a regular, ongoing basis without requiring capital investment by the Port beyond agreed upon improvements; and
3. The adequacy of markets available to PSRY to accommodate an additional contractor without creating a hardship, actions that will result in more work coming to PSRY, and actions that will limit division of the existing markets; and
4. The willingness to support the general objectives of PSRY to operate as a cooperatively managed, shared use facility without public subsidy and to build a strong industrial base in the Portland area for:
  - o ship repair, ship conversion, ship construction, and marine related fabrication; and
  - o stable employment of a skilled labor force; and
  - o opportunities for suppliers and subcontractors; and
  - o a reputation for quality workmanship and fair business practices.



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

August 12, 1987

Mr. Cecil Drinkward, President  
Hoffman Construction Company  
Hoffman-Columbia Plaza  
1311 S.W. 6th Ave.  
P.O. Box 1300  
Portland, Oregon 97207

Dear Cecil,

We at Northwest Marine would like to invite you and anyone you would choose to invite or send in your behalf to visit our facility and view all three of the Swan Island ship repair yard drydocks being utilized by Northwest Marine.

Drydock No. 4 currently is holding the S.S. Sansinena II during her biannual drydocking. She will be replaced in drydock No. 4 early next week by her sister ship S.S. Sierra Madre. Repairs will continue on Sansinena II and Sierra Madre after their respective drydocking evolutions are completed.

Drydock No. 3 is host to USS Paul F. Foster (DD-964) for its 100 day drydock availability.

Finally, we have USNS Wyman (T-AGS 34), an oceanographic research vessel, for its overhaul on drydock No. 1.

We are very proud of our work load, backlog, and current level of profitability. Thanks to the Port's excellent facilities and our successful bid strategies, we see opportunities to pursue even greater levels of volume in the very near future. Our return to profitability is creating an ever-growing number of good-paying jobs in the shipyard. We'd like very much to have the opportunity to show you how we're doing it and have you meet with Jim Coleman, Executive Vice President/Operations, and Gil Miller, Executive Vice President/Finance and Administration who have joined with us to assure Northwest Marine's continued high level of activity and consistent profitability in the future.

Please feel free to contact me if the scheduling works for you.

Yours very truly,

Northwest Marine Iron Works

William H. Zavín II  
President

WHZ/blf

NWMAR134092



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

For Your  
Input  
Bill Zavon

COLEMAN  
MILLEN  
BLAIR  
BEALL

July 27, 1987

Bill Zavon, President  
Northwest Marine Iron Works  
5555 N. Channel Avenue  
Portland OR 97217

Doug Watson, President  
West State, Inc.  
5555 N. Channel Avenue  
Portland OR 97217

## DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

Please review the attached draft policy statement and guidelines. PSRY shares your concerns about the need to define the expectations we place on contractors at PSRY. This statement is our attempt to put these expectations in writing.

While I am sure you have heard these ideas before, I would appreciate your input prior to presenting the final draft to the Port Commission. I will need your response no later than August 14, 1987. If you have any questions or concerns, please call me at 231-5526.

Guy J. Alvis, General Manager  
Portland Ship Repair Yard

/sb

Enclosure



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134093

Bill Zawn

I will need your  
comments by  
August 14, 1987

Guy  
231-5526

PORTLAND SHIP REPAIR YARD  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

July 26, 1987 / Page 1 of 6

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4. The willingness to support the general objectives of PSRY to operate as a cooperatively managed, shared use facility without public subsidy and to build a strong industrial base in the Portland area for:
  - o ship repair, ship conversion, ship construction, and marine related fabrication; and
  - o stable employment of a skilled labor force; and
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  - o a reputation for quality workmanship and fair business practices.

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 2 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES

Contractors will be required to demonstrate compliance with Port policy by providing documentation to PSRY staff. Staff will review contractor documentation and report to the Port Commission. Contractors may clarify their position before the Commission or by supplemental documentation presented to staff. The staff review will be confined to established criteria.

1. ABILITY TO PERFORM

The Port may limit the number of general contractors when a firm fails to demonstrate sufficient resources to fulfill their obligations to customers, suppliers, employees, or the Port. The limiting criteria are:

- A. Sufficient capitalization in relation to the business plan.
- B. Access to cash sufficient to guarantee that the Port will be paid for use of the yard, as evidenced by:
  - a. Committed lines of credit from financial institutions; or
  - b. The posting of performance bonds; or
  - c. Other financial information sufficient to establish financial strength.
- C. Adequate insurance against liability for carrying out work as evidenced by insurance certificates.
- D. Access to the equipment necessary to perform the work envisioned in the business plan. Evidence will be submitted in the form of equipment lists and equipment plans.
- E. The organization and structure to be successful, access to qualified personnel capable of performing quality work, and a formal business plan. Evidence will be provided in the form of:
  - a. Articles of incorporation including:
    - disclosure of individuals owning ten percent or more of the stock in the corporation
    - the board of directors
    - disclosure of related companies and corporations

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 3 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / ABILITY TO PERFORM

- b. Manpower plans, labor agreements, and/or personnel policies that include:
    - organizational chart
    - resumes of key officers and staff
    - wage and salary structure
    - work rules, policies, or procedures
    - employee benefits
    - training and development programs
    - certification of skills
    - safety program and safety history
    - retirement plans, profit sharing, or employee ownership
  - c. Business plans that include:
    - market analysis
    - business strategy
    - business history
  - d. Evidence of customer interest.
- F. A history of business integrity and an absence of breaching contractual obligations to public and private contracting agencies as evidenced by:
- a. Reports from recognized credit rating services.
  - b. Disclosure of pending litigation and legal history.
  - c. Audited annual financial statements and reports.
  - d. Current financial statements and reports.

## 2. YARD CAPACITY

The Port may limit the number of general contractors when a firm fails to demonstrate that the physical facilities available are adequate to accommodate additional work. The limiting criteria are:

- A. The time available on the drydocks and at the repair berths is adequate to do the projected work.
- B. The availability of backup area and space for fabrication and other work is sufficient.
- C. The quantity of work, jobs produced, and revenues generated for the Port is sufficient to warrant the commitment of the space requested.
- D. The firm is prepared to commit to long-term leases and other agreements to secure the Port's requirements for the use of existing or proposed facilities.

## 3. AVAILABLE BUSINESS

The Port may limit the number of general contractors when a firm fails to demonstrate that the markets available to PSRY are sufficient to accommodate the business intent. The limiting criteria are:

- A. The capability to attract new markets to PSRY.
- B. The capacity of existing markets to support the business plan without undermining the viability of other general contractors.
- C. Conditions which indicate the inadequacy of other general contractors to fully penetrate markets available to PSRY.

#### 4. SUPPORT FOR PSRY OBJECTIVES

The Port may limit the number of general contractors when a firm fails to demonstrate that it will actively support the objectives of the Portland Ship Repair Yard. The limiting criteria are:

- A. Securing through long-term lease of sufficient appropriate buildings and yard space to conduct the operations envisioned in the firm's business plan or purchase and ownership of properties immediately adjacent to PSRY.
- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
- D. Support through patronage of centrally supplied support services for ballast water treatment, steam generation, compressed air, fueling services, storage of flammable liquids, painting and sandblast operations other than on a vessel and other central services as they may be defined by the Shipyard Manager.
- E. Compliance with the general principles of fair business conduct including:
  - a. Cooperation with other general contractors at PSRY and the Port of Portland.
  - b. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
  - c. Willingness to do business with all suppliers and subcontractors on an equitable basis.
  - d. Support for the freedom of suppliers and subcontractors to freely pursue business from all general contractors.



PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 6 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / CONTINUED

- e. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
  - f. Observation of fair practices with respect to the employees, support for equal employment opportunity and affirmative action goals, and respect for worker's rights to grievance resolution and representation.
  - g. Willingness to seek negotiated settlements in disputes with customers, suppliers, subcontractors, other general contractors, employees, or others and to confine areas of disagreement to limited issues wherever possible.
  - h. Avoidance of behavior that will tend to drive work away from PSRY or diminish customer confidence in PSRY.
- F. Agreement to pay a share of the fixed expenses associated with providing services such as security, first aid, and other general benefit programs.
- G. Prompt payment of the Port, employees, subcontractors, and suppliers for all amounts due.
- H. Compliance with other rules and policies as may be necessary to secure the objectives of PSRY as defined by the Shipyard Manager.

AGENDA FOR MEETINGS WITH NMIW

What follows is a suggested agenda for meeting with the executives of Northwest Marine Iron Works. It is prepared with a view to changing the current weekly meetings to a bi-weekly meeting schedule. In order to allow the Port to feel comfortable with an extended period between the meetings, we feel that an enhanced discussion of the financial aspects of the company must be included.

FREQUENCYAGENDA ITEM

Monthly	Finances - An income statement and balance sheet within 45 days of the close of a month. Statistical ratios, pointing out significant trends in A/REC turnover, age of accounts payable, and of operating profit to net sales.
Bi-weekly	Marketing - Bids submitted, market trends and opportunities, etc.
Bi-weekly	Operations - Current significant jobs. % of completion, comparison of actuals to budget. Problem areas.
Bi-weekly	Claims - Update on progress and expectations
Bi-weekly	Property - Update on sales of non-essential property, by property.
Bi-weekly	Labor - Cost saving issues, problems, man-power levels
Biweekly	Other - Update on sale and leaseback. Any other pertinent topic.



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

cc: Denny West  
Dean Phillips

bcc: Bill Zavin  
Doug Watson

August 26, 1987

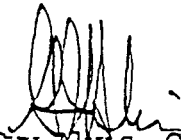
Mr. Loy Kahler  
Cascade General  
PO Box 129  
Vancouver WA 98660

## PSRY RENTAL POLICY ON FORMER DSR FACILITIES

Thank you for your letter of August 24, 1987. I have completed my review of the situation and it is as follows:

- o The Port is not prepared at this time to deviate from the prices indicated in our letter of August 14, 1987, or our memo of July 28, 1987.
- o The agreement for \$10,000 per month for security and nursing services is prerequisite to any further leasing activity.
- o Our willingness to enter into Month-to-Month leases was made to accommodate your needs. The Port's basic position is that the final determination of leases with Cascade General be based on a comprehensive proposal based upon the Criteria for Qualifying General Contractors. With assistance from the PSRY Marketing staff, there is no reason why completion of the proposal should not be any later than October 1, 1987.
- o We have yet to begin the negotiation of Month-to-Month leases.

If PSRY is to honor its commitments to existing contractors operating within the yard, some standard must be enforced. I feel the terms identified to Cascade General reasonably represent the "level playing field" we are attempting to protect.

  
Guy Alvis, General Manager  
Portland Ship Repair Yard

/sb  
(WK #32)



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134101

an option for the Navy to assign up to four additional ships to the successful proposer. The work on the initial ship should total about \$60 million, and would require the employment of approximately 750 workers. Having just emerged from Chapter 11, it is unlikely that Northwest Marine could obtain the necessary assurances from the bank for working capital over a 28-month period. If the state were willing to provide a working capital guarantee or a standby letter of credit (for which Northwest Marine would pay the traditional one percent fee), the bank would give the necessary assurances to the Navy, and the company could compete for this lucrative contract. It is unlikely that the state's exposure ever could exceed \$10 million, as the contract provides for regular progress payments from the Navy throughout the job. Again, a program could be devised where the state would earn a fee (a percentage of the profits) on each successfully completed job, thereby minimizing or eliminating the potential cost to the state.

These are two of the many ways the state could participate in the rejuvenation of this industry. As you know, Northwest Marine currently has four overhauls in the yard with several more on the way. The company is experiencing a dramatic turnabout in its financial fortunes, but remains a quantum leap away from the lucrative contracts which remain available only to the huge, bondable yards. The state could play a big role in moving Portland to the top ranks in the ship repair industry.

We appreciate your consideration of these ideas.

cc: Bill Zavin

MEMORANDUM

TO: Greg Baker  
FROM: Jim Beall  
RE: State Assistance to Ship Repair Industry  
DATE: July 29, 1987

As I indicated over the phone, there are two areas where the state of Oregon could play a key role in attracting jobs to the ship repair industry. In both instances, the state would act as an underwriter or guarantor of the projects. While the risk of loss to the state is relatively minimal, such guarantees are extremely difficult to obtain in today's depressed shipyard industry. If authority for such state action does exist, it would constitute a valuable means of diverting employment away from other, more prosperous regions of the country.

1. EVERGREEN STATE FERRY SYSTEM: This system has a program for repowering ferries which operate on Puget Sound. The next RFP is due to be published in August or early September. The state system requires a performance bond, something obtainable only from a huge corporation with a strong capital foundation. Lockheed was awarded the last such job. Because Lockheed has ceased bidding on ship repair contracts, there no longer exists any yard in the region with bonding capability. If Northwest Marine can obtain a bond through the assistance of the state or some other entity, it almost certainly would be awarded this job. The job is worth approximately \$10 million and would employ 250 workers for 4-5 months, beginning this November. Northwest Marine could obtain the necessary bond, however, only if some other entity is willing to guarantee the company's obligations under the bond. The guarantee would cost the state nothing. The state would become responsible only if the company defaulted on the contract and the bonding company eventually had to pay the system the difference between Northwest Marine's bid and the cost of doing the work elsewhere. Such a default would occur only if Northwest Marine went into a Chapter 7 bankruptcy, something which has not occurred in its 44 year existence. It is unlikely that the state's exposure, even under such circumstances, could exceed \$2 million. In addition, if such a guarantee program were initiated, a fee could be extracted from the participating yard (in this case, Northwest Marine) of, say, 20 percent of the job's profit. Over a period of years, the accumulated fees could build a significant "insurance fund" to minimize or eliminate any out-of-pocket exposure to the state.

2. NAVY OILERS: The U.S. Navy has a huge project to lengthen its oilers. In essence, the oilers are cut in half and a midsection inserted. The Navy's RFP is on the street. It requests proposals for the 28-month job on the U.S.S. Cimarron and includes

D R A F T

PORTLAND SHIP REPAIR YARD

LEASE GUIDELINES FOR FORMER DILLINGHAM SHIP REPAIR AREA

July 28, 1987

PSRY will observe the following in preparing leases for the space formerly occupied by Dillingham Ship Repair (DSR):

LONG-TERM RENTAL RATES (Three Years Plus)

	<u>Monthly Rate Per Square Foot</u>
Yard Space	\$0.05
Warehouse/Shop	\$0.18 - \$0.22
*Crane Served Shop	\$0.20 - \$0.24
Heated Office	\$0.35 - \$0.50
**HVAC Office	\$0.50 - \$0.65

MONTH-TO-MONTH RENTAL RATES (Project Related)

Yard Space	\$0.06
Small Warehouse/Shop	\$0.30
Large Warehouse/Shop	\$0.24
*Small Crane Served Shop	\$0.24 - \$0.32
*Large Crane Served Shop	\$0.22 - \$0.26
Heated Office	\$0.50
**HVAC Office	\$0.65
Office Suite	\$1.25

\*Includes PSRY Maintenance of Crane

\*\*Includes PSRY Maintenance of HVAC

UTILITIES (Always Month-to-Month)

Flat Rate/Warehouse/Shop	\$0.05
Flat Rate/Crane Served Shop	\$0.05
Flat Rate/Heated Office	\$0.10
Flat Rate/HVAC Office	\$0.15
Metered/All Spaces	Per Tariff
Building 4	Special Agreement

PSRY DEVELOPED SPACE

- o Requires Long-Term Lease
- o Base Rent Plus Development Cost
- o Cost of Funds Equals One Percent Per Month
- o Materials at Cost
- o Labor Equals \$25.00 Per Hour

SPACE OFFERED\*

Building 4, Bay 8	25,596 square feet
Bay 9	25,000 square feet
Bay 10	24,600 square feet
Bay 11	28,780 square feet
Building 9	12,539 square feet
Building 63	11,495 square feet
Building 63-A	5,790 square feet
Building 71	14,823 square feet
Yard Space	Up To 150,000 square feet

\*NOTE: All areas approximate and subject to correction by measurement

SPACE NOT OFFERED

PSRY will not offer building 50, Bays 3 or 4 or Building 54 for the uses established by DSR. PSRY will not offer yard space critical to fabrication on a long-term basis.

PARKING, YARD ACCESS, IDENTIFICATION BADGING

The general contractor will be required to observe all rules related to traffic control, parking, yard access and identification badging as a condition of approving any lease. Rented yard space is to be identified for each monthly vehicle pass or gate Kontrol Kard requested (\$18 per vehicle per month minimum).

DRAFT LEASE GUIDELINES  
July 28, 1987  
Page 3

#### MINIMUM SPACE RENTAL

The general contractor must lease space sufficient to successfully carry out its business plan. Space other than project-related space should be rented on a long-term, three year basis.

#### EQUAL TREATMENT

PSRY will not offer terms better than those stated in these guidelines to other general ship repair contractors without approval of the Policy committee. PSRY may offer more favorable terms to non-general ship repair contractors on an opportunity basis.



crewe / may

PORTLAND SHIP REPAIR YARD

DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

July 26, 1987 / Page 1 of 6

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PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 2 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
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PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 3 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / ABILITY TO PERFORM

- b. Manpower plans, labor agreements, and/or personnel policies that include:
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## 2. YARD CAPACITY

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- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
- D. Support through patronage of centrally supplied support services for ballast water treatment, steam generation, compressed air, fueling services, storage of flammable liquids, painting and sandblast operations other than on a vessel and other central services as they may be defined by the Shipyard Manager.
- E. Compliance with the general principles of fair business conduct including:
  - a. Cooperation with other general contractors at PSRY and the Port of Portland.
  - b. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
  - c. Willingness to do business with all suppliers and subcontractors on an equitable basis.
  - d. Support for the freedom of suppliers and subcontractors to freely pursue business from all general contractors.

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 6 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / CONTINUED

- e. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
  - f. Observation of fair practices with respect to the employees, support for equal employment opportunity and affirmative action goals, and respect for worker's rights to grievance resolution and representation.
  - g. Willingness to seek negotiated settlements in disputes with customers, suppliers, subcontractors, other general contractors, employees, or others and to confine areas of disagreement to limited issues wherever possible.
  - h. Avoidance of behavior that will tend to drive work away from PSRY or diminish customer confidence in PSRY.
- F. Agreement to pay a share of the fixed expenses associated with providing services such as security, first aid, and other general benefit programs.
- G. Prompt payment of the Port, employees, subcontractors, and suppliers for all amounts due.
- H. Compliance with other rules and policies as may be necessary to secure the objectives of PSRY as defined by the Shipyard Manager.

D R A F T

PORTLAND SHIP REPAIR YARD

LEASE GUIDELINES FOR FORMER DILLINGHAM SHIP REPAIR AREA

July 28, 1987

PSRY will observe the following in preparing leases for the space formerly occupied by Dillingham Ship Repair (DSR):

LONG-TERM RENTAL RATES (Three Years Plus)

	<u>Monthly Rate Per Square Foot</u>
Yard Space	\$0.05
Warehouse/Shop	\$0.18 - \$0.22
*Crane Served Shop	\$0.20 - \$0.24
Heated Office	\$0.35 - \$0.50
**HVAC Office	\$0.50 - \$0.65

MONTH-TO-MONTH RENTAL RATES (Project Related)

Yard Space	\$0.06
Small Warehouse/Shop	\$0.30
Large Warehouse/Shop	\$0.24
*Small Crane Served Shop	\$0.24 - \$0.32
*Large Crane Served Shop	\$0.22 - \$0.26
Heated Office	\$0.50
**HVAC Office	\$0.65
Office Suite	\$1.25

\*Includes PSRY Maintenance of Crane

\*\*Includes PSRY Maintenance of HVAC

UTILITIES (Always Month-to-Month)

Flat Rate/Warehouse/Shop	\$0.05
Flat Rate/Crane Served Shop	\$0.05
Flat Rate/Heated Office	\$0.10
Flat Rate/HVAC Office	\$0.15
Metered/All Spaces	Per Tariff
Building 4	Special Agreement

PSRY DEVELOPED SPACE

- o Requires Long-Term Lease
- o Base Rent Plus Development Cost
- o Cost of Funds Equals One Percent Per Month
- o Materials at Cost
- o Labor Equals \$25.00 Per Hour

SPACE OFFERED\*

Building 4, Bay 8	25,596 square feet
Bay 9	25,000 square feet
Bay 10	24,600 square feet
Bay 11	28,780 square feet
Building 9	12,539 square feet
Building 63	11,495 square feet
Building 63-A	5,790 square feet
Building 71	14,823 square feet
Yard Space	Up To 150,000 square feet

\*NOTE: All areas approximate and subject to correction by measurement

SPACE NOT OFFERED

PSRY will not offer building 50, Bays 3 or 4 or Building 54 for the uses established by DSR. PSRY will not offer yard space critical to fabrication on a long-term basis.

PARKING, YARD ACCESS, IDENTIFICATION BADGING

The general contractor will be required to observe all rules related to traffic control, parking, yard access and identification badging as a condition of approving any lease. Rented yard space is to be identified for each monthly vehicle pass or gate Kontrol Kard requested (\$18 per vehicle per month minimum).



DRAFT LEASE GUIDELINES

July 28, 1987

Page 3

MINIMUM SPACE RENTAL

The general contractor must lease space sufficient to successfully carry out its business plan. Space other than project-related space should be rented on a long-term, three year basis.

EQUAL TREATMENT

PSRY will not offer terms better than those stated in these guidelines to other general ship repair contractors without approval of the Policy committee. PSRY may offer more favorable terms to non-general ship repair contractors on an opportunity basis.

PORTLAND SHIP REPAIR YARD

DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

July 26, 1987 / Page 1 of 6

POLICY STATEMENT

It is the policy of the Port of Portland in administering the Use Agreement and Leases of the Portland Ship Repair Yard that qualifying general contractors will demonstrate:

1. The ability to perform, including the ability to perform quality work in the markets being pursued and the general business strength and competence to assure payment for use of Port facilities and services; and
2. The physical capacity of the yard to accommodate the business intent of the contractor to use on a regular, ongoing basis without requiring capital investment by the Port beyond agreed upon improvements; and
3. The adequacy of markets available to PSRY to accommodate an additional contractor without creating a hardship, actions that will result in more work coming to PSRY, and actions that will limit division of the existing markets; and
4. The willingness to support the general objectives of PSRY to operate as a cooperatively managed, shared use facility without public subsidy and to build a strong industrial base in the Portland area for:
  - o ship repair, ship conversion, ship construction, and marine related fabrication; and
  - o stable employment of a skilled labor force; and
  - o opportunities for suppliers and subcontractors; and
  - o a reputation for quality workmanship and fair business practices.

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 2 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
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Contractors will be required to demonstrate compliance with Port policy by providing documentation to PSRY staff. Staff will review contractor documentation and report to the Port Commission. Contractors may clarify their position before the Commission or by supplemental documentation presented to staff. The staff review will be confined to established criteria.

1. ABILITY TO PERFORM

The Port may limit the number of general contractors when a firm fails to demonstrate sufficient resources to fulfill their obligations to customers, suppliers, employees, or the Port. The limiting criteria are:

- A. Sufficient capitalization in relation to the business plan.
- B. Access to cash sufficient to guarantee that the Port will be paid for use of the yard, as evidenced by:
  - a. Committed lines of credit from financial institutions; or
  - b. The posting of performance bonds; or
  - c. Other financial information sufficient to establish financial strength.
- C. Adequate insurance against liability for carrying out work as evidenced by insurance certificates.
- D. Access to the equipment necessary to perform the work envisioned in the business plan. Evidence will be submitted in the form of equipment lists and equipment plans.
- E. The organization and structure to be successful, access to qualified personnel capable of performing quality work, and a formal business plan. Evidence will be provided in the form of:
  - a. Articles of incorporation including:
    - disclosure of individuals owning ten percent or more of the stock in the corporation
    - the board of directors
    - disclosure of related companies and corporations

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 3 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / ABILITY TO PERFORM

- b. Manpower plans, labor agreements, and/or personnel policies that include:
    - organizational chart
    - resumes of key officers and staff
    - wage and salary structure
    - work rules, policies, or procedures
    - employee benefits
    - training and development programs
    - certification of skills
    - safety program and safety history
    - retirement plans, profit sharing, or employee ownership
  - c. Business plans that include:
    - market analysis
    - business strategy
    - business history
  - d. Evidence of customer interest.
- F. A history of business integrity and an absence of breaching contractual obligations to public and private contracting agencies as evidenced by:
- a. Reports from recognized credit rating services.
  - b. Disclosure of pending litigation and legal history.
  - c. Audited annual financial statements and reports.
  - d. Current financial statements and reports.

## 2. YARD CAPACITY

The Port may limit the number of general contractors when a firm fails to demonstrate that the physical facilities available are adequate to accommodate additional work. The limiting criteria are:

- A. The time available on the drydocks and at the repair berths is adequate to do the projected work.
- B. The availability of backup area and space for fabrication and other work is sufficient.
- C. The quantity of work, jobs produced, and revenues generated for the Port is sufficient to warrant the commitment of the space requested.
- D. The firm is prepared to commit to long-term leases and other agreements to secure the Port's requirements for the use of existing or proposed facilities.

## 3. AVAILABLE BUSINESS

The Port may limit the number of general contractors when a firm fails to demonstrate that the markets available to PSRY are sufficient to accommodate the business intent. The limiting criteria are:

- A. The capability to attract new markets to PSRY.
- B. The capacity of existing markets to support the business plan without undermining the viability of other general contractors.
- C. Conditions which indicate the inadequacy of other general contractors to fully penetrate markets available to PSRY.

#### 4. SUPPORT FOR PSRY OBJECTIVES

The Port may limit the number of general contractors when a firm fails to demonstrate that it will actively support the objectives of the Portland Ship Repair Yard. The limiting criteria are:

- A. Securing through long-term lease of sufficient appropriate buildings and yard space to conduct the operations envisioned in the firm's business plan or purchase and ownership of properties immediately adjacent to PSRY.
- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
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  - b. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
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PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 6 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / CONTINUED

- e. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
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D R A F T

PORTLAND SHIP REPAIR YARD

LEASE GUIDELINES FOR FORMER DILLINGHAM SHIP REPAIR AREA

July 28, 1987

PSRY will observe the following in preparing leases for the space formerly occupied by Dillingham Ship Repair (DSR):

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- o Requires Long-Term Lease
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DRAFT LEASE GUIDELINES

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Page 3

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PORTLAND SHIP REPAIR YARD

DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

July 26, 1987 / Page 1 of 6

POLICY STATEMENT

It is the policy of the Port of Portland in administering the Use Agreement and Leases of the Portland Ship Repair Yard that qualifying general contractors will demonstrate:

1. The ability to perform, including the ability to perform quality work in the markets being pursued and the general business strength and competence to assure payment for use of Port facilities and services; and
2. The physical capacity of the yard to accommodate the business intent of the contractor to use on a regular, ongoing basis without requiring capital investment by the Port beyond agreed upon improvements; and
3. The adequacy of markets available to PSRY to accommodate an additional contractor without creating a hardship, actions that will result in more work coming to PSRY, and actions that will limit division of the existing markets; and
4. The willingness to support the general objectives of PSRY to operate as a cooperatively managed, shared use facility without public subsidy and to build a strong industrial base in the Portland area for:
  - o ship repair, ship conversion, ship construction, and marine related fabrication; and
  - o stable employment of a skilled labor force; and
  - o opportunities for suppliers and subcontractors; and
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PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 2 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
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  - c. Other financial information sufficient to establish financial strength.
- C. Adequate insurance against liability for carrying out work as evidenced by insurance certificates.
- D. Access to the equipment necessary to perform the work envisioned in the business plan. Evidence will be submitted in the form of equipment lists and equipment plans.
- E. The organization and structure to be successful, access to qualified personnel capable of performing quality work, and a formal business plan. Evidence will be provided in the form of:
  - a. Articles of incorporation including:
    - disclosure of individuals owning ten percent or more of the stock in the corporation
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    - disclosure of related companies and corporations

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 3 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / ABILITY TO PERFORM

- b. Manpower plans, labor agreements, and/or personnel policies that include:
    - organizational chart
    - resumes of key officers and staff
    - wage and salary structure
    - work rules, policies, or procedures
    - employee benefits
    - training and development programs
    - certification of skills
    - safety program and safety history
    - retirement plans, profit sharing, or employee ownership
  - c. Business plans that include:
    - market analysis
    - business strategy
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  - d. Evidence of customer interest.
- F. A history of business integrity and an absence of breaching contractual obligations to public and private contracting agencies as evidenced by:
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## 2. YARD CAPACITY

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- C. Conditions which indicate the inadequacy of other general contractors to fully penetrate markets available to PSRY.

#### 4. SUPPORT FOR PSRY OBJECTIVES

The Port may limit the number of general contractors when a firm fails to demonstrate that it will actively support the objectives of the Portland Ship Repair Yard. The limiting criteria are:

- A. Securing through long-term lease of sufficient appropriate buildings and yard space to conduct the operations envisioned in the firm's business plan or purchase and ownership of properties immediately adjacent to PSRY.
- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
- D. Support through patronage of centrally supplied support services for ballast water treatment, steam generation, compressed air, fueling services, storage of flammable liquids, painting and sandblast operations other than on a vessel and other central services as they may be defined by the Shipyard Manager.
- E. Compliance with the general principles of fair business conduct including:
  - a. Cooperation with other general contractors at PSRY and the Port of Portland.
  - b. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
  - c. Willingness to do business with all suppliers and subcontractors on an equitable basis.
  - d. Support for the freedom of suppliers and subcontractors to freely pursue business from all general contractors.

PORTLAND SHIP REPAIR YARD / JULY 26, 1987 / PAGE 6 OF 6  
DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS  
GUIDELINES / CONTINUED

- e. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
  - f. Observation of fair practices with respect to the employees, support for equal employment opportunity and affirmative action goals, and respect for worker's rights to grievance resolution and representation.
  - g. Willingness to seek negotiated settlements in disputes with customers, suppliers, subcontractors, other general contractors, employees, or others and to confine areas of disagreement to limited issues wherever possible.
  - h. Avoidance of behavior that will tend to drive work away from PSRY or diminish customer confidence in PSRY.
- F. Agreement to pay a share of the fixed expenses associated with providing services such as security, first aid, and other general benefit programs.
- G. Prompt payment of the Port, employees, subcontractors, and suppliers for all amounts due.
- H. Compliance with other rules and policies as may be necessary to secure the objectives of PSRY as defined by the Shipyard Manager.



CRITERIA FOR QUALIFYING GENERAL CONTRACTORS  
PORTLAND SHIP REPAIR YARD

Handwritten mark: a checkmark with the word "Hus" written below it.

In the context of the existing Use Agreement approach to granting yard access, the following criteria for qualifying a general contractor should apply:

1. The ability of contractor to perform, including their ability to pay the Port for use of the yard.
2. The capacity of the yard and the intent of the contractor to use the yard on a regular, ongoing basis.
3. The amount of business available to PSRY and whether or not an addition to the contractor base will result in more work coming to PSRY or simply a further division of the existing work.
4. The financial health of PSRY contractors, the competitive situation for ship repair and the impact of additional competition on the industry in Portland.

Ability to Perform

- A. Contractors must have sufficient financial resources to fulfill their obligations.
  1. The firm must be sufficiently capitalized in relation to its business plan.
  2. There needs to be a guarantee that the Port will be paid for the use of the yard, as evidenced by:
    - a. Committed lines of credit from financial institutions; or
    - b. By posting a performance bond or other financial commitment; or
    - c. By other financial information sufficient to establish their financial strength.
  3. Contractors need to be adequately insured against liability in carrying out the work as evidenced by insurance certificates.

CRITERIA FOR QUALIFYING GENERAL CONTRACTORS  
Page 2

- B. Contractors need to have equipment available to perform ship repair work. Evidence should be submitted in the form of equipment plans.
- C. Contractors need to have key personnel available to perform quality work and a business structure and plan that appears to be workable. Evidence should be provided in the form of:
  - 1. Articles of incorporation.
  - 2. Manpower plans.
  - 3. Business plans.
  - 4. Evidence of customer interest.
- D. Contractors should have an absence of any history of breaching contractual obligations to public and private contracting agencies.

Yard Capacity

In addition to reviewing contractors actual capabilities, we will limit the number of general contractors when we lack the physical facilities to accommodate them. The limiting criteria in this area would be:

- A. Availability of time on the drydocks and at the berths to do the contracted work.
- B. Availability of backup area and space for fabrication and other work.
- C. Contractors should be limited to those who will make a commitment to bring work to the yard, and would restrict access by contractors who would use the yard only for occasional business.

Available Business

Any decision to accept an application should be made only after an assessment of available business and

PSRY marketshare. An increase in available business or an increase in marketshare should be the result of increasing the number of contractors. Additionally, the approval assessment should include a review of plans and prospects of existing contractors for potential conflict or synergy. The burden of proof regarding potential increase of available business or marketshare shall be borne by the applicant.

#### Competitive Situation

Recognizing that the strength of the industry in Portland is based on the success of the private firms using PSRY facilities, additional contractors will not be granted access if the additional competition is detrimental to the financial health of existing firms. In making a determination relative to the impact of added competition the Port shall review recent bidding history to determine the extent to which Portland firms are simply competing among themselves versus firms in other regions. The Port shall also review the profitability of work performed to the extent such information is made available.

It is not appropriate to consider criteria solely related to controlling or restricting competition in the yard.

The Port remains open to exploration of an arrangement beyond the existing Use Agreement which may offer some form of semi-exclusive agreement in return for financial guarantees from contractors.

CRITERIA FOR QUALIFYING GENERAL CONTRACTORS  
PORTLAND SHIP REPAIR YARD

In the context of the existing Use Agreement approach to granting yard access, the following criteria for qualifying a general contractor should apply:

1. The ability of contractor to perform, including their ability to pay the Port for use of the yard.
2. The capacity of the yard and the intent of the contractor to use the yard on a regular, ongoing basis.
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Ability to Perform

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    - b. By posting a performance bond or other financial commitment; or
    - c. By other financial information sufficient to establish their financial strength.
  3. Contractors need to be adequately insured against liability in carrying out the work as evidenced by insurance certificates.

## CRITERIA FOR QUALIFYING GENERAL CONTRACTORS

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- D. Contractors should have an absence of any history of breaching contractual obligations to public and private contracting agencies.

### Yard Capacity

In addition to reviewing contractors actual capabilities, we will limit the number of general contractors when we lack the physical facilities to accommodate them. The limiting criteria in this area would be:

- A. Availability of time on the drydocks and at the berths to do the contracted work.
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## CRITERIA FOR QUALIFYING GENERAL CONTRACTORS

Page 3

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## CRITERIA FOR QUALIFYING GENERAL CONTRACTORS

### PORTLAND SHIP REPAIR YARD

In the context of the existing Use Agreement approach to granting yard access, the following criteria for qualifying a general contractor should apply:

1. The ability of contractor to perform, including their ability to pay the Port for use of the yard.
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    - a. Committed lines of credit from financial institutions; or
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    - c. By other financial information sufficient to establish their financial strength.
  3. Contractors need to be adequately insured against liability in carrying out the work as evidenced by insurance certificates.
- B. Contractors need to have equipment available to perform ship repair work. Evidence should be submitted in the form of equipment plans.
- C. Contractors need to have key personnel available to perform quality work and a business structure and plan that appears to be workable. Evidence should be provided in the form of:
  1. Articles of incorporation.
  2. Manpower plans.

3. Business plans.
  4. Evidence of customer interest.
- D. Contractors should have an absence of any history of breaching contractual obligations to public and private contracting agencies.

#### Yard Capacity

In addition to reviewing contractors actual capabilities, we will limit the number of general contractors when we lack the physical facilities to accommodate them. The limiting criteria in this area would be:

- A. Availability of time on the drydocks and at the berths to do the contracted work.
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- C. Contractors should be limited to those who will make a commitment to bring work to the yard, and would restrict access by contractors who would use the yard only for occasional business.

#### Available Business

Any decision to accept an application should be made only after an assessment of available business and PSRY marketshare. An increase in available business or an increase in marketshare should be the result of increasing the number of contractors. Additionally, the approval assessment should include a review of plans and prospects of existing contractors for potential conflict or synergy.

It is not appropriate to consider criteria<sup>solo</sup>/related to controlling or restricting competition in the yard based on the existing Use Agreement.

In the future, we shall explore an arrangement beyond the existing Use Agreement which may offer some form of semiexclusive agreement in return for financial guarantees from contractors.



## Park West Children's Fund

---

1016 Hanley Avenue • Los Angeles, CA 90049

"MV Spirit" • P.O. Box 11556 • Bainbridge Island, WA 98110 • Telephone (206) 842-0144

April 6, 1987

Mr. Bill Zavin  
NW MARINE  
P.O. Box 3109  
Portland, OR. 97208

Dear Mr. Zavin:

Please excuse the long delay in my correspondence. We have secured a new vessel and I have been tied up with many odds and ends. Again, please excuse the delay. In a charitable organization like ours, being understaffed is something we are always trying to overcome.

Here is the work that we anticipate on SPIRIT's hull.

- Wet wash
- Paint (we have the paint)
- Overhaul skin valves (10)
- Check tail shaft and clearance
- Check propeller
- Check rudder for leaks and clearance
- secure zincs (we have the zincs)

There may be a need to patch minor cracks in the hull. If you can supply us with a list of needed materials we will secure them prior to the dry dock. Our schedule is a bit backed up at this point. (We have been offered several warehouses full of medical equipment and a tugboat and barge, so the men have been tied up securing these donations). At any rate, I will keep closely in touch. We so deeply appreciate your interest in assisting us in this crucial area of dry docking.

Please contact us at (206)441-8248 for any further information. If you will let me know specifically what drawings of the ship you need, I will send them on immediately.

Again, our sincerest thanks! Best Regards.

Sincerely,



Sondra George  
P W C F

AGENDA  
The Port of Portland  
Regular Commission Meeting  
April 8, 1987

Commission

Approval of Minutes - Regular Meeting - March 11, 1987

Unscheduled Commission Discussion

Executive Director

Approval of Executive Director's Report for March 1987.

Aviation

Presented by:

- |                                                                                                    |                 |
|----------------------------------------------------------------------------------------------------|-----------------|
| 1. Approval to Lease Hangar Space - Buffalo Airways, Inc. - Portland International Airport         | Bob Finley      |
| 2. Approval to Award Change Order - Terminal Expansion Project - Portland International Airport    | Bob Friedenwald |
| 3. Approval to Award Contract - Maintenance Facility Vehicle Wash - Portland International Airport | Dennis Bertek   |

Marine Services

- |                                                                                       |               |
|---------------------------------------------------------------------------------------|---------------|
| 4. Approval to Award Contract - Building 4 Rehabilitation - Portland Ship Repair Yard | Dennis Bertek |
|---------------------------------------------------------------------------------------|---------------|

Marine

- |                                                                                                   |                  |
|---------------------------------------------------------------------------------------------------|------------------|
| 5. Approval to Award Contracts - Bulk Export Facility - Terminal 4 (item not included)            | Marv Byington    |
| 6. Approval to Award Contract - Container Crane Rail Brakes - Terminals 2 and 6                   | Nira Ratnathicam |
| 7. Approval to Award Contract - Inspection Service, Crane Fabrication - Terminal 2 Rehabilitation | Marv Byington    |

Agenda for Regular Commission Meeting  
April 8, 1987  
Page 2

- |                                                                                             |               |
|---------------------------------------------------------------------------------------------|---------------|
| 8. Approval to Award Change Order - Wharf and Dredging Contract - Terminal 2 Rehabilitation | Marv Byington |
| 9. Approval to Renew Office Lease - Tokyo, Japan                                            | Bob Lipscomb  |
| 10. Approval to Lease Waterfront - Knappton Corporation - Terminal 4                        | Peggy Krause  |

Planning and Development

- |                                                                                                                             |               |
|-----------------------------------------------------------------------------------------------------------------------------|---------------|
| 11. Approval of Agreement with Northern Specialty Sales - dba Northern Warehousing to Operate a Foreign-Trade Zone Facility | Peggy Krause  |
| 12. Approval to Assign Lease - Nussmeier-Stalick Development Company to Donald K. Nussmeier - Swan Island Industrial Park   | Terri Deskins |

General

- |                                                                                                                                          |                  |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 13. Approval of Ordinance 333, Authorizing and Relating to the Issuance of the Port of Portland General Obligation Bonds, 1987 Series EE | Katherine Schwab |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------|

1654H  
01C330

## CRITERIA FOR QUALIFYING GENERAL CONTRACTORS

### PORTLAND SHIP REPAIR YARD

In the context of the existing Use Agreement approach to granting yard access, the following criteria for qualifying a general contractor should apply:

1. The ability of contractor to perform, including their ability to pay the Port for use of the yard.
2. The capacity of the yard and the intent of the contractor to use the yard on a regular, ongoing basis.
3. The amount of business available to PSRY and whether or not an addition to the contractor base will result in more work coming to PSRY or simply a further division of the existing work.

#### 1. Ability to Perform

- A. Contractors must have sufficient financial resources to fulfill their obligations.
  1. The firm must be sufficiently capitalized in relation to its business plan.
  2. There needs to be a guarantee that the Port will be paid for the use of the yard, as evidenced by:
    - a. Committed lines of credit from financial institutions; or
    - b. By posting a performance bond or other financial commitment; or
    - c. By other financial information sufficient to establish their financial strength.
  3. Contractors need to be adequately insured against liability in carrying out the work as evidenced by insurance certificates.
- B. Contractors need to have equipment available to perform ship repair work. Evidence should be submitted in the form of equipment plans.
- C. Contractors need to have key personnel available to perform quality work and a business structure and plan that appears to be workable. Evidence should be provided in the form of:
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In the future, we shall explore an arrangement beyond the existing Use Agreement which may offer some form of semiexclusive agreement in return for financial guarantees from contractors.



Port of Portland

# **PSRY** *MarketShare*

---

February 6, 1987

**DRAFT**

Dave Neset  
Guy Alvis  
Mic Dorrance  
PSRY Policy Committee

PORTLAND SHIP REPAIR YARD (PSRY)  
SAVE MONEY ON BLAST GRIT  
A LOT OF MONEY

We have an opportunity to work together to save money.  
Would you like to:

- o Reduce the volume of new grit we buy by at least 40 percent annually?
- o Reduce the volume of spent grit we dispose by at least 40 percent?
- o Thereby, reduce the cost of the grit volume we currently use by at least 20 percent?
- o Improve the quality of the grit and collectively reduce the number and size of spent grit piles in the yard and the consequent mess.

And to do this with minimum out-of-pocket expense. I can hear the roar of the crowd now!

We have been working for the last 18 months with Kleen-Blast to this end and are able to put all the pieces of this before you.

BLAST GRIT  
February 6, 1987  
Page 2

The proposal involves the recycling of the Kleen-Blast material in PSRY. Kleen-Blast is now confident they can deliver a recycled product as good, if not better, than the virgin material you now buy. They will present all the technical details in a joint meeting. But, working with Maltby Company, they have developed a trailer-mounted unit that goes two steps beyond the current generation of recycling apparatus. It will remove all of the fine material and all of the magnetic material from the spent grit and blend it with a modest amount of new material.

To make the economics work will require the cooperation of all the grit users.

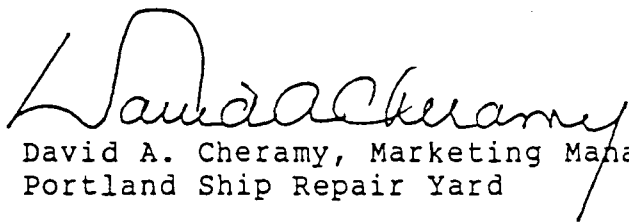
First, the spent grit will have to be treated as a commodity. Garbage, paint thinner and the like will have to be kept out of the piles.

Second, the delivery, collection, processing and distribution will have to be centralized in a convenient location. The proposal works best with two or possibly three large silos in one location.

Third, Kleen-Blast will have to become almost the sole supplier of grit in PSRY.

Fourth, the proposal will have to be constructed so that you are guaranteed the best product at the lowest price.

The first three issues explain themselves. Number four is the issue requiring the most explanation and can best be handled in a detailed meeting on the subject. You will be canvassed to set up a meeting in the very near term. I think you will find it an interesting and exciting opportunity to work together to save money and enhance "our" facility.

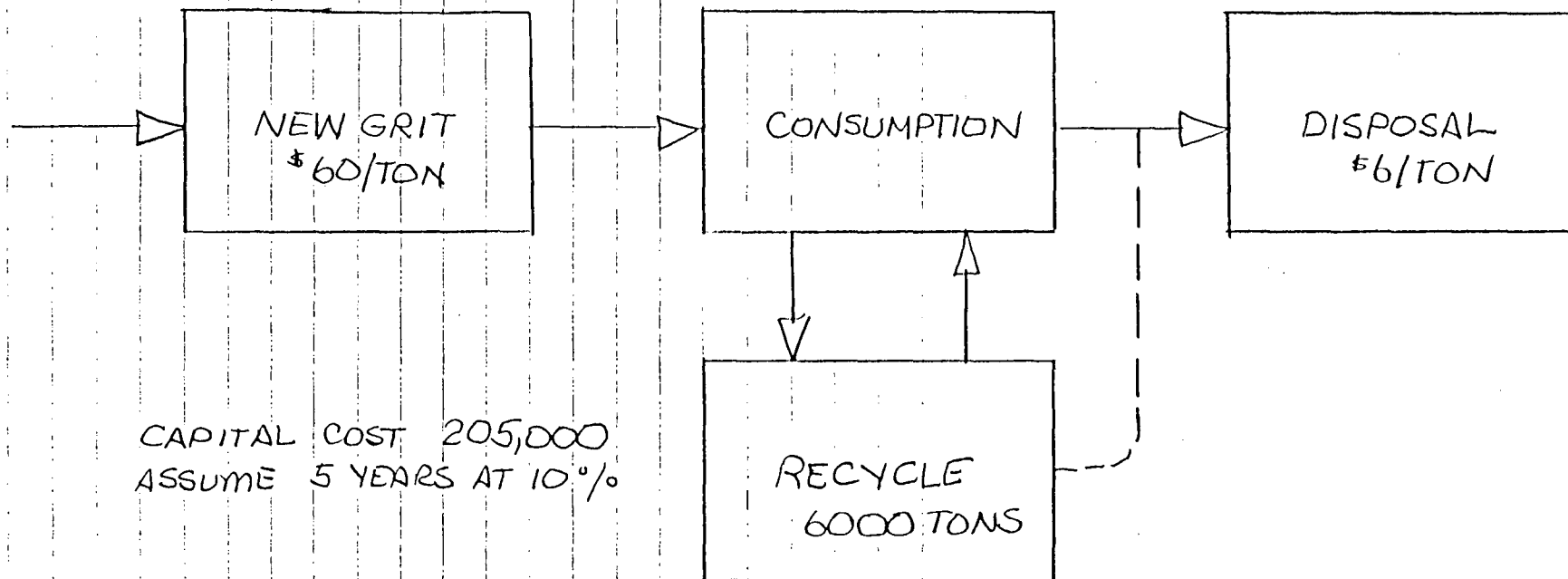
  
David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard

/sb

NWMAR134145

2/6/87 DAC :

TONS	NOW	13,000	13,000	13,000
	THEN	7,000	17,000 6,000 13,000	7,000



CAPITAL COST 205,000  
ASSUME 5 YEARS AT 10%

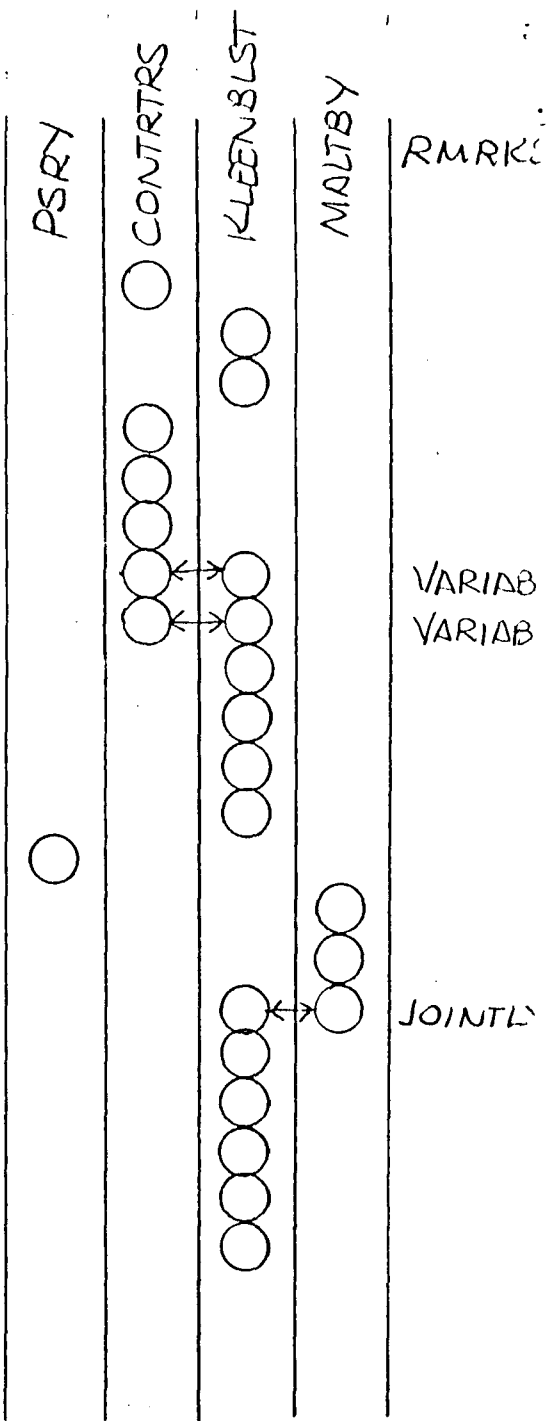
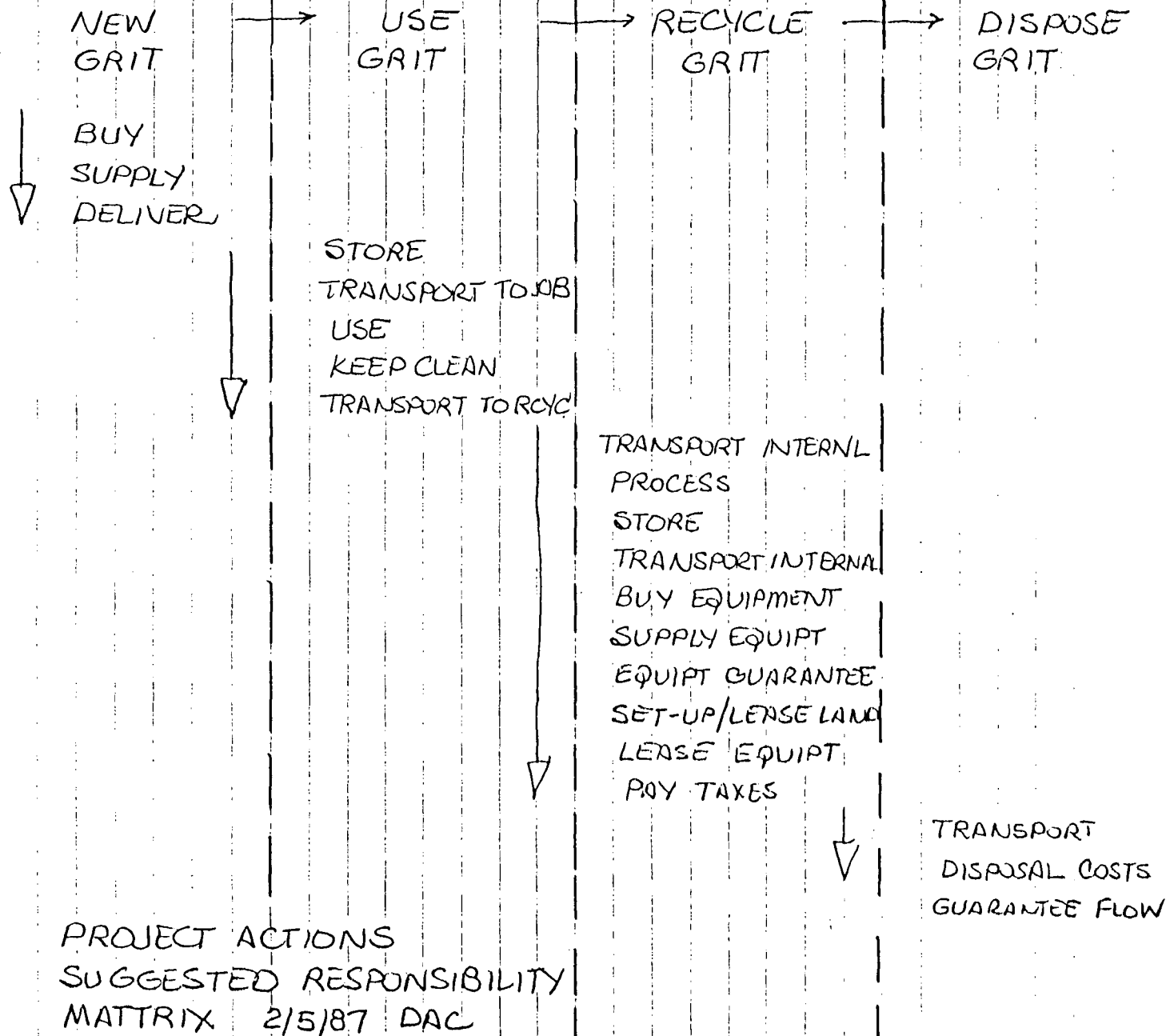
FUEL 2<sup>50</sup>    HANDLING 2<sup>50</sup>  
LABOR 2<sup>50</sup>    CAPITAL 9<sup>00</sup>  
MAINT 1<sup>50</sup>    RENT/MISC 9<sup>00</sup>

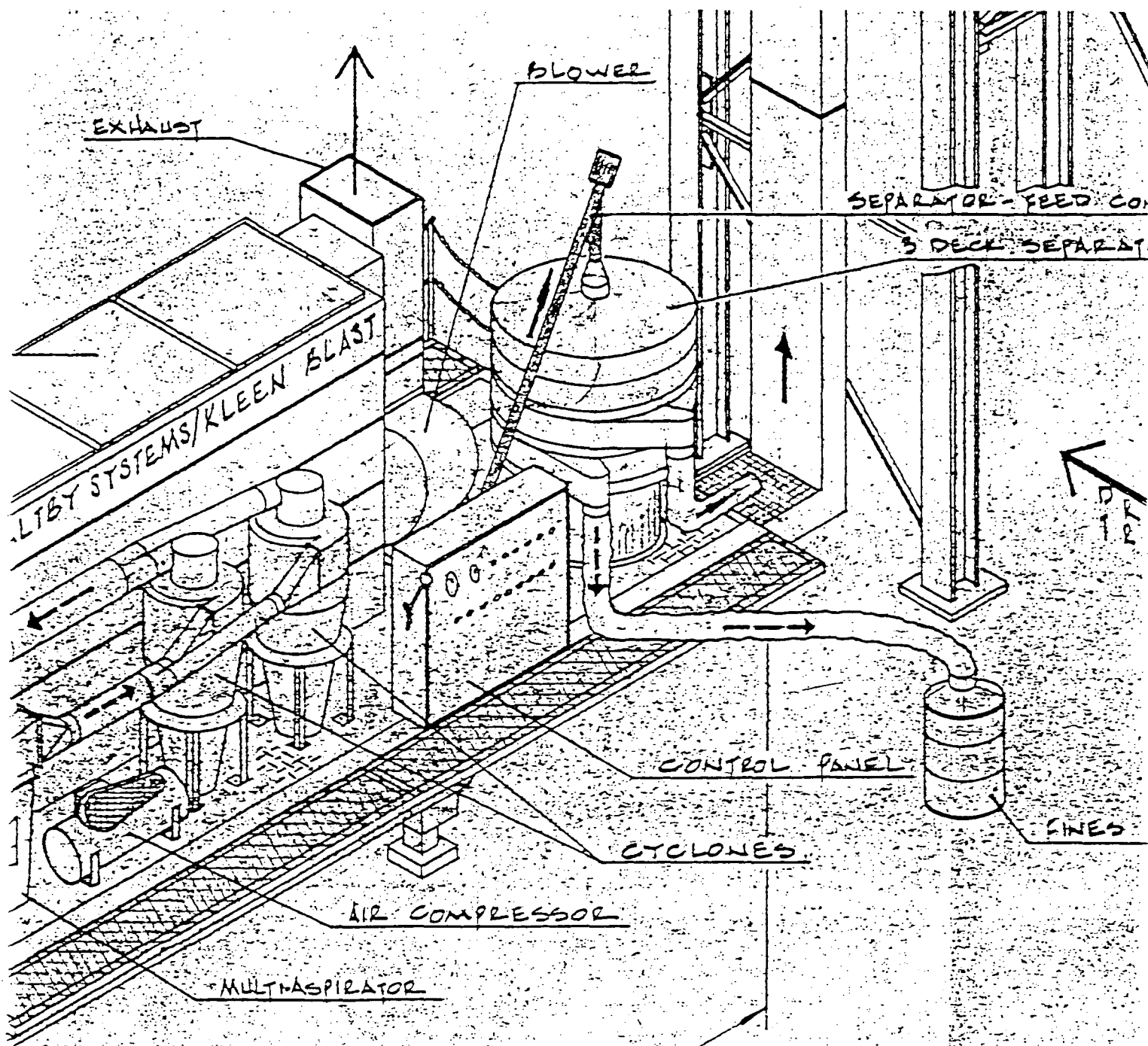
\$	NOW	780,000	78,000 = 858,000
	THEN	420,000	42,000 = 625,000

GRIT TON AND \$ DIAGRAM

NET SAVING = \$233,000  
÷ 1300 = ± \$17/TON





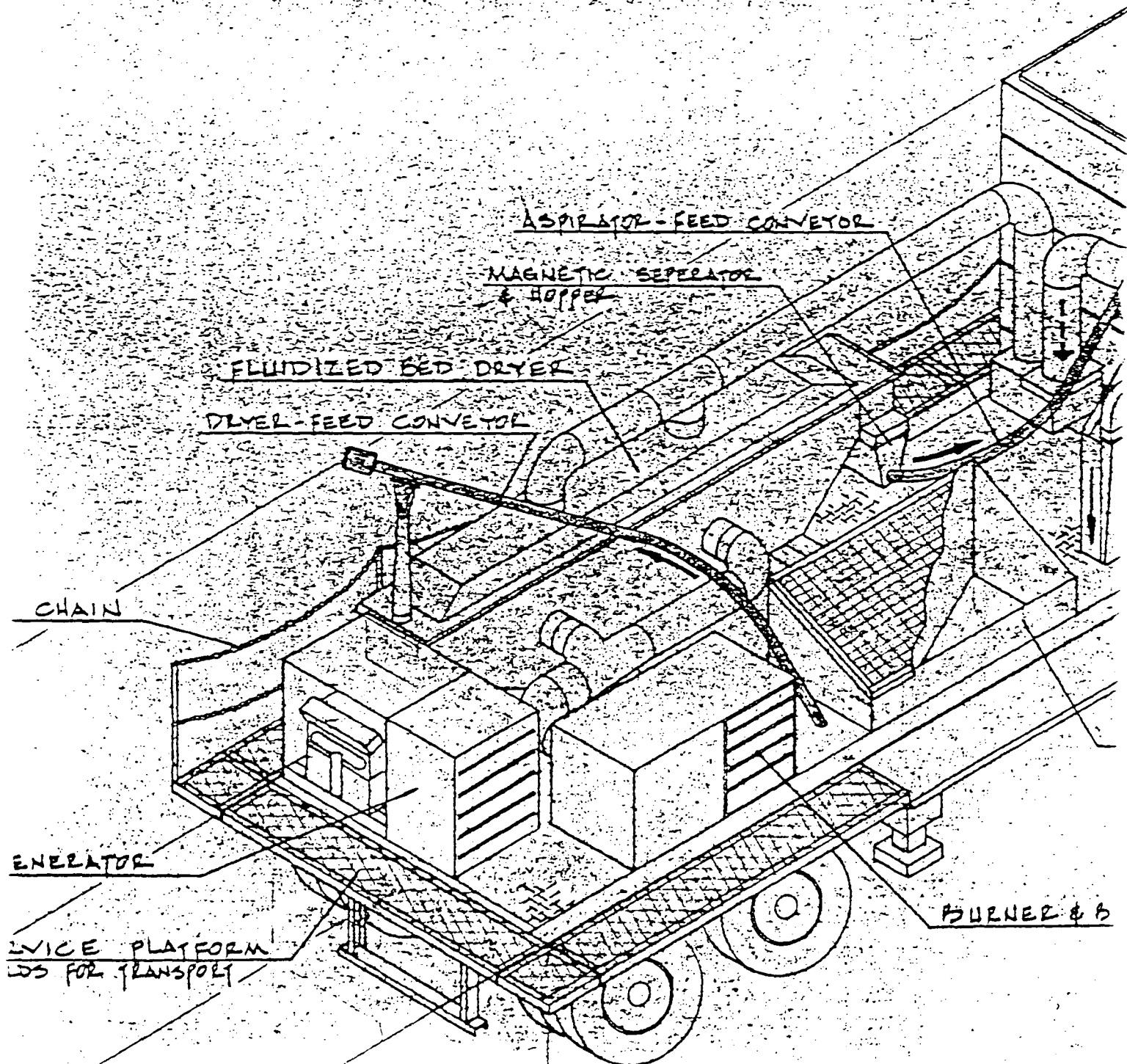


17 HOPPER  
SCALPING SCREEN

ER

40'-0"±

# BAG HOUSE DUST COLLECTOR





# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 2, 1987

William Lundmark  
William H. Zavin  
Douglas T. Watson

Cascade General  
Northwest Marine Iron Works  
West State Inc.

## PORTLAND SHIP REPAIR YARD (PSRY) OPPORTUNITIES AND INCENTIVES FOR NON-TRADITIONAL LINES OF BUSINESS

As part of the efforts to meet the economic development objectives of the Portland Ship Repair Yard, we will be approaching several major companies with the opportunities and incentives that will attract new, non-traditional lines of business. We want to make certain these same opportunities and incentives are available to you, the current users of the facility. They are described briefly as follows:

### OPPORTUNITY

In addition to the traditional markets pursued at PSRY, we believe we are well positioned to address new opportunities that will expand the business base:

- o MHC Second Source (9 ships \$100 million each) - Our facility can be quickly adapted to provide state-of-the-art indoor fabricating shops. Fiberglass construction will assume an increasing role in the small ships market, foreign and domestic.
- o PXM (6 ships \$60 million each) - Our facility can also quickly adapt to the indoor construction of this new opportunity. We have ample space and the land level delivery system or crane capacity to economically meet this challenge.
- o Army Large Tug Second Source (7 ships \$15 million each) - Similar to the PXM opportunity, we can also serve the needs of this program.



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134150

Opportunities and Incentives For  
Non-Traditional Lines of Business  
September 2, 1987  
Page 2

- o Factory Trawlers (15-18 ships \$25-35 million each) - This is an emerging market for the Alaska mid-ocean fishery and will lead to on-going work. PSRY is best positioned geographically and in facilities to serve this market.


In all, we believe the opportunity to serve new markets at PSRY is very high.

INCENTIVES

The Port of Portland is able to offer several incentives which will make establishing new facilities to serve non-traditional lines of business attractive. They include:

- o Capital to develop the unique facilities which are needed to create the most competitive plant and equipment to serve new opportunities.
- o Reduction in our standard rates of charge for facilities to serve new markets.
- o Industrial Revenue Bonds for capitalization of new unique plant and equipment which would be contractor owned.
- o Participation, through reduced facility rates or other mechanisms, in the preparation of unique proposals to new markets.
- o Staging of PSRY revenue billings to match the actual flow of income from new projects in new markets until the operation is established.

These are just a few of the creative means we can offer to attract your participation in new markets at PSRY. We remain open to discuss your further ideas for incentives to expand the business base in PSRY.

  
Guy J. Alvis, General Manager  
Portland Ship Repair Yard



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 2, 1987

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NWMAR134152

Opportunities and Incentives For  
Non-Traditional Lines of Business  
September 2, 1987  
Page 2

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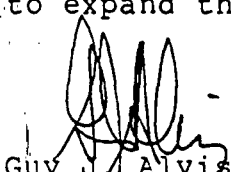
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Guy J. Alvis, General Manager  
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September 2, 1987

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NWMAR134154



Opportunities and Incentives For  
Non-Traditional Lines of Business  
September 2, 1987  
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Guy J. Alvis, General Manager  
Portland Ship Repair Yard



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

*Copies*

COLEMAN

MILLER

SAVIN

CHAMPLIN

~~RETURN TO~~

September 4, 1987

Mr. John Sullivan, Vice President  
ARCO Marine, Inc.  
300 Oceangate  
Long Beach, CA 90802-4341

## PORTLAND SHIP REPAIR YARD (PSRY) ARCO MARINE, INC. TARIFF DISCOUNTING

Once again, thank you for sharing your time with us to gain a further mutual understanding of our needs in respect to discounting of PSRY tariff and use fees. We have worked successfully with other ARCO companies on a number of issues of joint interest (ANWR development, module projects, etc.), and believe we can successfully arrive at a resolution of this issue as well.

### BACKGROUND

PSRY, with the approval of the Port of Portland Commission, undertook the process of selectively discounting tariff and use fee charges about 30 months ago. This was done to work with the PSRY contractors to bear our share of the burden to attract work to the shipyard while they undertook the necessary steps to become more competitive. That process is well underway and in the near future, with limited exception, the discounting process will be discontinued.

The objective of selectively discounting was and is to get something for it. Either new business lines or a steady flow of work were the specific targets.

### METHODS

Two methods of discounting are used to achieve the objectives of the program. Both are prepared and presented through close cooperation with the PSRY contractors, and the process is well known to them. We term them "fleet discount" and "project discount" each briefly explained as follows:



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134156

### Fleet Discount

In exchange for a guaranteed commitment of two or more ships for drydocking and repair at PSRY, there is a sequentially increasing discount of our charges. What we get is an assured amount of work.

We have only two such discounts in place and neither of them involve ships in the so-called "TAPS trade". The structure of the discount is very similar to the proposal we prepared in cooperation with Dillingham Ship Repair for presentation to ARCO in September 1986. A further copy of that proposal is attached.

When it has been possible to create such an arrangement, we have done so with the contractors and it has been accepted with enthusiasm by the shipowner.

### Project Discount

On a project-by-project or ship-by-ship basis we have offered and provided discounts in close cooperation with the contractors to achieve specific business goals. Generally, the level of discounting is determined by their study of specific competitive pressure, advertised or speculated inter-port differentials, etc. In essence, we do as much as we can to "level the playing field" so the chances of the work coming to PSRY are improved.

Recently, we have offered a series of discounts for ARCO work without success. We don't have access to specific bid information, since ARCO policy does not permit sharing it, but we have come to believe our discount in this regard is not a determinant as to where the work is awarded. Specifically, when the work is competed with the Far East shipyards, PSRY cannot make enough of a difference through discounting that ARCO will decide to bring the work to PSRY.

Notably, the ARCO ALASKA and ARCO INDEPENDENCE, both jobs offered with substantial discounting will be done in Japan.

Mr. John Sullivan  
September 4, 1987  
Page 3

#### RECENT DISCUSSION

To summarize recent discussion with you, we understand that:

- o ARCO does not feel the discounting process has been equitable and that others are getting a better deal.
- o ARCO is not in a position to offer a commitment of work to PSRY and therefore rejects the "fleet discount" concept.
- o ARCO, as a good corporate citizen, has made a commitment to do "some" of the ship repair work on its 10-ship fleet in the U.S. Specifics of the "some" cannot be shared.
- o ARCO wants a discount equal to that enjoyed by others in the "TAPS trade" on each occasion that ARCO work is performed at PSRY.
- o ARCO feels an obligation to provide a sustaining level of work at PSRY so we will be here to serve future needs.
- o In order for ARCO to continue this sustaining level of work, some commitment to discounting PSRY tariffs and use fees must be made.

This constitutes our full understanding. Please correct us if we have misunderstood any point.

#### NEW DEVELOPMENT

In our most recent discussion, ARCO asked for some idea of what PSRY tariff and use fee discount would be available for ARCO work awarded to a PSRY contractor under a so-called time and material contract.

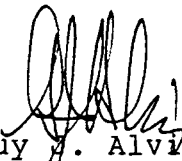
We want to clearly state we will be pleased to work with ARCO to arrive at a discounting arrangement which will meet our mutual objectives. We are committed to this process.

Mr. John Sullivan  
September 4, 1987  
Page 4

However, since we are a small percentage (nominally 15 percent) of the total repair invoice, we are reluctant to be placed in the position of "primary determinant". Contractor labor rates determine a far greater share of your repair costs (up to 65 percent). We do not presume the role of deciding how the PSRY users conduct their business affairs. We think it is appropriate to continue our practice of working with the contractors to develop a complete package that will meet your needs and attract an increasing share of ARCO work to PSRY.

To this end, we will work with the contractor(s) you nominate to quickly prepare the best offer that can be made given the circumstances you have provided. Insuring they are fully informed of our work on this opportunity, we are sharing a copy of this letter with each of them for their consideration.

The Portland Ship Repair Yard and the contractors are quickly becoming the low-cost center for ship repair on the West Coast. We will continue to take the steps necessary to remain the most competitive provider of ship repair services in the U.S. Let's continue the process together.

  
Guy J. Alvès, General Manager  
Portland Ship Repair Yard

cc: William Lundmark, Cascade General Inc.  
William H. Zavín, Northwest Marine Iron Works  
Douglas T. Watson, West State Inc.  
Benjamin Wallace, Controller, ARCO Marine Inc.

NWMAR134159



Port of Portland

# **PSRY** *MarketShare*

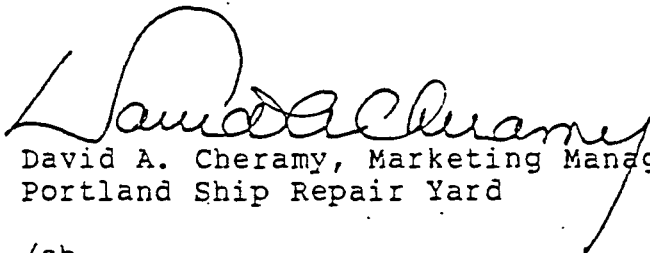
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March 6, 1987

Mr. Scott Fitzwater  
Dillingham Ship Repair  
5555 N. Channel  
Portland OR 97217

ARCO MARINE INC., FLEET DISCOUNT

We remain open and ready to discuss further possibilities to arrive at a fleet discounting scheme with Arco Marine and keep John Sullivan satisfied. We would appreciate the opportunity to discuss the results of your meeting with the ARCO people. We await your input.



David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard

/sb

cc: Dave Neset  
Guy Alvis



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

- bcc: Dave Hesel  
Chuck Requa  
Guy Alvis

September 22, 1986

Mr. Scott Fitzwater, President  
Dillingham Ship Repair  
5555 N. Channel Avenue  
Portland OR 97217

PORTLAND SHIP REPAIR YARD (PSRY)  
TARIFF DISCOUNT PROPOSAL FOR  
ARCO MARINE, INC.

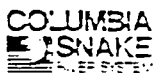
The Portland Ship Repair Yard (PSRY) is pleased to offer  
Dillingham Ship Repair the following Tariff Discount  
Agreement proposal for ARCO Marine Inc.:

## TERM

The term of the Discount Agreement will be 30 months from  
the date of written acceptance by Dillingham Ship Repair and  
ARCO Marine Inc.

## TARIFF

The discount will apply to Tariff No. 37-B and modifications  
that may be made to the PSRY Tariff during the term of the  
agreement. Each shipyard event will be subject to the then  
prevailing PSRY Tariff and Use Fee Agreement.



Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y.,  
Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134161

Mr. Scott Fitzwater, President  
September 22, 1986  
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#### APPLICABILITY

The Discount Agreement will apply to the ten ship fleet presently owned and managed by ARCO Marine as follows:

ARCO SPIRIT	ARCO CALIFORNIA	ARCO ANCHORAGE
ARCO INDEPENDENCE	ARCO JUNEAU	ARCO FAIRBANKS
ARCO ALASKA	ARCO TEXAS	ARCO PRUDHOE BAY
		ARCO SAG RIVER

The discount will apply only to shipyard events with or without drydocking that achieve a gross billing to ARCO Marine from Dillingham in excess of \$1,000,000.

#### GOAL

The goal of the discounting agreement is to reduce the amount paid by ARCO Marine for PSRY Tariff No. 37-B and the 5.7 percent User Fee. Discounts will be calculated as follows:

<u>Shipyard Event Over</u> <u>\$1.0 Million Gross Billing</u>	<u>Discount from PSRY</u> <u>Billing in Percent</u>
First	10
Second	10
Third	10
Fourth	15
Fifth	15
Sixth	15
Seventh	15
Eighth	20
Ninth	20
Tenth	25
Eleventh	25
Twelfth	30



Mr. Scott Fitzwater  
September 22, 1986  
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#### APPLICATION OF DISCOUNT

The discount provided by the agreement will be accumulated from the first through the sixth shipyard event. Thereafter, ARCO Marine, Inc., may elect to apply the discount savings to any repair event over \$1 million up to fifty percent (50%) of the PSRY invoice to Dillingham. Any excess will carry over for application to follow-on shipyard events. There will be no carry over in excess past the 30-month term of the agreement.

PSRY will produce a running accounting of the applied and available discounts following each event covered by the Discount Agreement.

#### TRANSFER

The Discount Agreement will apply only to ships owned by ARCO Marine and cannot be transferred to other owners.

We look forward to further discussion of this Discount Agreement proposal leading to a mutually satisfactory resolution soon.

  
David A. Cheramy, Marketing Manager  
Portland Ship Repair Yard  
/sb

PROJECT AGREEMENT  
SIGNATORY FIRMS  
PACIFIC COAST MASTER AGREEMENT

THIS PROJECT AGREEMENT SHALL BE APPLIED TO NAVY, COAST GUARD,  
AND SUPPORT SHIPS OF THE AFOREMENTIONED SERVICES AND READY RESERVE, LISTED  
AND ATTACHED TO THIS DOCUMENT.

NO OTHER VESSELS OR PROJECTS OTHER THAN THOSE LISTED CAN BE CON-  
SIDERED COVERED BY THE TERMS AND PROVISIONS OF THIS PROJECT AGREEMENT.

ALL OTHER PROVISIONS OF THE MASTER SHIPBUILDING AGREEMENT SHALL  
REMAIN IN FORCE AND UNCHANGED EXCEPT THOSE WHICH ARE MADE AN EXCEPTION  
TO IN THIS PROJECT AGREEMENT.

ANY VESSELS WORKED ON OR BID ON BY THE EMPLOYERS OTHER THAN  
THOSE WHICH ARE LISTED AS PART OF THEIR PROJECT AGREEMENT SHALL BE WORKED  
AND BID ON UNDER THE FULL AND COMPLETE PROVISIONS OF THE MASTER SHIPBUILDING  
AGREEMENT UNLESS SPECIFICALLY CHANGED AND APPROVED BY THE METAL TRADES  
DISTRICT COUNCIL.

THE PROVISIONS OF THE PROJECT AGREEMENT OTHER THAN THE ATTACHED  
LISTED PROJECT VESSELS ARE:

(1) DOUBLE TIME SHALL BECOME TIME AND ONE-HALF AS IT RELATES TO  
OVERTIME FOR WORK PERFORMED ON ANY OF THE LISTED PROJECTS AS DESCRIBED BELOW:

(A) TIME AND ONE-HALF FOR THE 9th AND 10th WORK HOURS FOR WEEKLY  
DAYS MONDAY THROUGH FRIDAY.

(B) TIME AND ONE-HALF FIRST EIGHT (8) HOURS ON SATURDAY.

(C) ALL OTHER HOURS WORKED SHALL BE AT DOUBLE TIME INCLUDING  
SUNDAY, EXCESS OF EIGHT (8) HOURS ON SATURDAY AND ANY HOURS  
IN EXCESS OF TEN (10) AND ON HOLIDAYS.

(2) SHIFT PREMIUMS SHALL BE FROZEN AT SEVENTY-FIVE CENTS (75¢) FOR SWING SHIFT AND ONE DOLLAR (\$1.00) FOR GRAVEYARD SHIFT DURING THE TERM OF THE LISTED PROJECTS.

(3) A "PRODUCTION BONUS" SHALL BE PAID TO ALL EMPLOYEES WHO PERFORMED WORK DURING THE TIME FRAME OF THE LISTED PROJECTS. FIRST MONIES PAID BACK WILL BE FOR THE INVESTMENT MADE BY THE EMPLOYEES IN THE FORM OF REDUCED WAGES. MONIES LEFT AFTER THIS PAYMENT WILL BE NEGOTIATED BETWEEN THE PARTIES.

THE CRITERIA AND FRAMEWORK OF THIS "BONUS" STRUCTURE WILL BE DRAWN UP BY REPRESENTATIVES OF THE DISTRICT METAL TRADES COUNCIL. THE AFFECTED EMPLOYERS AND A THIRD NEUTRAL PARTY SELECTED TO ASSIST AND ACT AS AN "IMPARTIAL REFEREE" DURING PROCEDURAL TALKS. THIS COMMITTEE SHALL ALSO ADDRESS THE RENEGOTIATION OF ANY WAGE RATES BETWEEN THE CONTRACTOR AND THE PARTICULAR GOVERNMENT AGENCIES INVOLVED.

THE EMPLOYER AGREES TO MAKE ALL RECORDS AVAILABLE WHICH ARE NEEDED TO ASCERTAIN THE STRUCTURE BY WHICH EACH PROJECT WAS BID AND BY WHICH THE WORK WAS PERFORMED. ALSO, ALL RECORDS WHICH DEAL WITH PROJECT COSTS AND REVENUE MUST BE MADE AVAILABLE TO THE DISTRICT METAL TRADES COUNCIL BY THE AFFECTED EMPLOYERS.

(4) THE WAGE RATE FOR THE ATTACHED LISTED PROJECTS SHALL BE TEN (\$10.00) DOLLARS PER HOUR. APPRENTICES SHALL RECEIVE THEIR REGULAR INCREASES UP TO TEN (\$10.00) DOLLARS PER HOUR IF THEY ARE WORKING ON A LISTED PROJECT. IF THEY ARE WORKING ON A NON-LISTED PROJECT, THEY WILL RECEIVE WAGE INCREASES AS ALLOWED UNDER THE APPRENTICESHIP STANDARDS OF THE CRAFTS.

(4) EMPLOYEES WORKING IN VARIOUS SHOPS AND AREAS SUCH AS WAREHOUSE, MAINTENANCE, MATERIAL AND TOOL ROOMS WILL BE PAID THE FULL RATE OF THIRTEEN DOLLARS AND FIFTY CENTS (\$13.50) IF THEY ARE CO-MINGLED AS TO REGULAR WORK AND PROJECT WORK.

THOSE EMPLOYEES WHO ARE IN SEPARATE FACILITIES ASSIGNED SPECIFICALLY TO A LISTED PROJECT SHALL RECEIVE THE PROJECT RATE OF TEN DOLLARS (\$10.00).

VACATION PAY SHALL BE PAID ACCORDING TO THE MASTER SHIPBUILDING AGREEMENT.

ASSIGNMENT OF WORK SHALL BE BY SENIORITY. PREFERENCE OF ASSIGNMENT TO HIGHER PAYING JOBS AVAILABLE WITHIN THE EMPLOYER'S PREMISES SHALL BE GIVEN TO SENIORITY PEOPLE.

(5) THERE SHALL BE NO CHANGE IN THE FRINGE BENEFITS OF THE CURRENT MASTER SHIPBUILDING AGREEMENT.

(6) THIS PROJECT AGREEMENT SHALL BE VOTED UPON BY EMPLOYEES WHO ARE EITHER EMPLOYED OR HAVE RECALL RIGHTS AS OF APRIL 30, 1985. ELECTRICIANS, MACHINISTS AND CARPENTERS WILL VOTE ACCORDING TO THEIR CONTRACT ADDENDUMS.

EACH EMPLOYER'S WORK FORCE IS TO BE VOTED ON SEPARATELY AND APART FROM ANY OTHER WORK FORCE AND COMPANY WHICH MAY BE SIGNATORY TO THIS PROJECT AGREEMENT.

(7) PROJECT AGREEMENTS MUST BE APPROVED BY A MAJORITY OF THE EXECUTIVE BOARD OF THE PACIFIC COAST METAL TRADES DISTRICT COUNCIL.

(8) THE PROJECT AGREEMENT SHALL BE VALID FOR THE LIFE OF THE CONTRACT ON THE SPECIFIC VESSELS LISTED HEREIN AND SHALL BECOME NULL AND VOID UPON COMPLETION OF SAID SPECIFIED PROJECTS.

THE PARTIES ENTER INTO THE PROJECT AGREEMENT WITH CONCERNS FOR THE EMPLOYEES, EMPLOYER AND THE SHIPBUILDING INDUSTRY IN GENERAL.

IT IS HOPED BY OUR COMBINED EFFORTS THAT THE EMPLOYER WILL BECOME MORE COMPETITIVE IN THE INDUSTRY, WHICH WILL ULTIMATELY LEAD TO FULL EMPLOYMENT FOR THE SKILLED CRAFT PERSONS WHO ARE MEMBERS OF THE METAL TRADES UNIONS.

BY THE SIGNATURES ATTACHED BELOW, THE EMPLOYER AND THE UNIONS TENTATIVELY AGREE ON ACCEPTANCE OF THIS PROPOSAL. FINAL APPROVAL AND CONFIRMATION OF THIS OR ANY FUTURE PROJECT AGREEMENT CAN ONLY BE MADE BY AN ACCEPTANCE VOTE OF THE EMPLOYEES OF THE SIGNATORY EMPLOYER TO THIS PROJECT AGREEMENT.

EFFECTED COMPANY - N.W. MARINE

BY: William H. Smith

TITLE: President

PACIFIC COAST METAL TRADES  
DISTRICT COUNCIL

BY: Clarence E. Buggy

TITLE: Secretary Treasurer

TACOMA METAL TRADES COUNCIL

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

SEATTLE METAL TRADES COUNCIL

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

PORTLAND METAL TRADES COUNCIL

BY: Michael J. Foster

TITLE: Executive Secretary

DATED THIS 29 DAY OF May, 1985

**Ballot Procedure:**

1. When you have voted, place ballot in small envelope marked "BALLOT", seal envelope and place it in the large reply envelope.
2. Sign your name and address in ink on the outside of the reply envelope. The outer envelope must be signed in your handwriting, plus social security number, or the vote cannot be counted.
3. To be counted, all ballots must be received in Seattle, Washington, for counting not later than midnight, June 6, 1985.

MAIL YOUR BALLOT BACK IMMEDIATELY. YOUR VOTE IS IMPORTANT

\*\*\*\*\*

B I D L I S T

DILLINGHAM SHIP REPAIR, PORTLAND, OREGON

Project Vessel

EX PRESIDENT POLK (T-ACS-3)  
AUX. CRANE SHIP

Solicitation No.

DTMA-91-85-B-50503

NORTHWEST MARINE IRON WORKS, INC.

Project Vessel

1. USS HARRY W. HILL (DD986)  
USS CUSHING (DD 985)
2. USS DULUTH (LPD-6)  
USS CLEVELAND (LPD-7)
3. USCG 378' WHEC FRAM PROJECT  
(8 SHIPS INCLUDED IN THIS PROJECT)
4. USNS METEOR (T-AKR 9)
5. COVERED LIGHTER (YFN)  
(8 BARGES, OPTION FOR 15, TOTAL 20)

Solicitation No.

N00024-85-R-8522  
N00024-85-R-8506  
DTCG23-84-R-31014  
N62383-85-B-0028  
N00024-85-R-2104

TODD PACIFIC SHIPYARDS, SEATTLE DIVISION

Project Vessel

1. USS HARRY W. HILL (DD 986)  
USS CUSHING (DD 985)
2. USS DULUTH (LPD-6)  
USS CLEVELAND (LPD-7)
3. USS CAMDEN (AOE-2)  
USS SACRAMENTO (AOE-1)
4. USCG HAMILTON CLASS FRAM
5. LANDING CRAFT AIR CUSHION (LCAC)
6. USNS HAYES (T-AGOR-16)
7. EX PRESIDENT POLK (T-ACS-3)  
AUX. CRANE SHIP

Solicitation No.

N00024-85-R-8522  
N00024-85-R-8506  
N00024-85-R-8518  
DTCG23-84-R-31014  
N00024-84-R-2154  
DTMA-91-85-B-50503

October 16, 1987

Open letter to  
Top Manegement

Dear Sirs:

You sure have been keeping a awful low profile lately no one has hardly even seen you, although I think you are oblivious to what is going on around you, that is why I felt compelled to write again to you.

In the last issue of "SCUTTLEBUTT" was a story about Holland American lines, about the Veendam how we repaired it and had it back in service in seven days and the relationship this started with Holland American and got us a lasting repair contract. You had better thank God you are not embarking upon starting this relationship now with these completly incompetant idiots you have running the Boilermakers, I am refering of course to Eckelhoff, all the Niemeyer brothers, and the Payne brothers, what a great bunch of relatives to run a craft, the rank and file people will absolutely not exert themselves at all for this bunch of incompetant. and some of them inexperienced, but all has been's, but will only do the minnimum they can get by with your production could more than double with someone who knew what they were doing and how to manage personnel (Mike Eggison, George Young)

This afore mentioned bunch of relatives knows only harassment of people, they have no line of cummunication with people are totally incapable of dealing with personnel and their problems, totally unfair, and especially Russ Niemeyer has an almost uncontrollable temper. They will write one person a foreman warning for something and allow the next to freely do the same thing. Speaking of foreman warnings either Russ Niemeyer or someone under his control have nothing else to do but write foreman warnings on Sept 30, 1987 everyone found a foreman warning attached to their time cards with a staple, this sparked a bit of violent action on the part of some at least two people were seen setting fire to the warnings one of which was thrown into a trash skiff and a resulting fire ensued this shows Russ Niemeyer's lack of thought as to consequences which might occur from something he may do like this also his absolute lack of control.

NWMAR134169

The next morning a meeting was called at which he (Russ) expounded on how he had had 146 foreman's warnings issued for people punching out early, but he could hardly hold his temper when people began asking him various questions, perhaps his conscience was bothering him about his brother Bill who most everyday slips out the front door in full view of everybody without punching out, gets in his car and drives away although he might just as well he doesn't do much of anything else all day anyway. Everytime we see either Bill or Russ they are strolling around with a cup of coffee in their hand.

Mr Eckelhoff is so insecure that he is always boasting and braging how good he is or was to cover up his TOTAL insecurity. Mr Ed walks around in the shop and elsewhere with no hard hat or safety glasses as does Russ Niemeyer, but with Mr Ed it is to boost his mental macho image and to try to show his superiority to everyone. This incompetent, insecure, unknowledgeable, idiot, has such an opinion of himself that if he walks near by you and you greet him with "hello" he will stare a hole through you and act as if you are not there - either that or he must be on something? What a way for a superintendent to act, what a way to gain respect, what a great line of communication with his rank and file employees.

Our latest venture we have a foreman with nothing to do but go around putting masking tape on all the lockers for people to put their names on. Then we are going to buy and put on all combination locks on the lockers (we have no money to buy tools but we can afford locks) all this so the office can have the combination to them all so so they can get into them anytime they want to, INVASION OF PRIVACY, harassment, show of incompetence, insecurity.

Leadmen and foreman are seemingly selected on the bases of who is the most boistrus, someone's good friend, a relative, etc, not on bases of knowledge or experiance. Leadmen are partial to some harsh on others, nothing these idiots in charge do is consistant or impartial in any way, discrimination runs ramped, supervisory skills do not exist.

Sincerely;

A Concerned Employee (ACE)





# NORTHWEST MARINE IRON WORKS

## PORT OF PORTLAND TOPICS

1. Movie
  - Self-explanatory; expanding for other business properties
2. Business Path
  - Busy and profitable summer
  - Still plenty of opportunities
    - \* FALL - APL Ships
      - MARAD, New York
    - \* WINTER - OI
      - MERCY
      - ANCHORAGE
      - INDEPENDENCE
      - STEIN
  - Navy Coast-wide Bids
    - \* only 6-8 per year
    - \* FY 88 will see tight \$ and some ships may be dropped
    - \* Everett Home Port issue
      - ASTORIA " " "
3. Common Usage Costs
  - Only fair way is to assess each major user his fair share of costs for Aide Station, Security, Navy Committee
  - NMIW has carried the Aide Station while Common Usage Costs have been discussed with WDI and CG.
  - All prospective users should sign up to this prior to issuance of a use permit.
  - Casual users should also pay for the time they operate in the yard.
4. POP Economic Support to PSRY Contractors
  - Provide bonding support for MARAD, Washington State Contracts. ALL major U.S. Army Watercraft procurements require 100 P&P bonds.
  - POP review NMIW with eye to assisting. Would provide needed working capital to expand base.
  - Reduce POP overhead where it can be.
  - POP work with Contractors on reducing fees to improve Contractor competitiveness.
  - Continue to provide Fleet discounts.
5. DEQ/Safety Matters
  - Ensure Port is a safe work site.
  - Provide Contractors with latest DEQ initiatives and concerns.
  - POP enforce DEQ rules such as open sandblasting limitations. Revoke user permits, if necessary.
6. Guy Alvis (Acting)
  - UPCHECK

7. F&E BOUGHT - IHI

PORTLAND SHIP REPAIR YARD  
ACTION PLAN

THE PROBLEM

The long-range PSRY economic development goal of \$300 million in sales and 3,500 jobs, with its 3.6 economic multiplier, cannot be accomplished by the current contractor base.

THE OPPORTUNITY

- o PSRY will continue to grow and emerge as the leading ship repair facility on the U.S. West Coast.
- o The industry shakeout, which is accelerating, provides PSRY with the opportunity to attract an increasing share of the available market.
- o PSRY will increase sales and employment, as it has over the last five years.
- o PSRY is, and will continue to be, the only U.S. West Coast shipyard with access to and facilities to address all major markets.

THE CANDIDATE

The ideal candidate company has the following characteristics:

- |                         |                                |
|-------------------------|--------------------------------|
| 1. Industry survivor.   | 8. Willing to work with labor. |
| 2. Serves the Navy.     | 9. New methods and approaches. |
| 3. Well-capitalized.    | 10. Technically capable.       |
| 4. Entrepreneurial.     | 11. Politically astute.        |
| 5. Serves many markets. | 12. Interested in expansion.   |
| 6. A shipbuilder.       | 13. Well-recognized.           |
| 7. Possesses backlog.   |                                |

THE CANDIDATES

Determined through a scoring process, the top eleven candidates from a list of twenty-five are, by rank:

- o National Steel and Shipbuilding Co., San Diego (348)
- o Newport News Shipbuilding and Dry Dock, Virginia (344)
- o Bath Iron Works, Maine (331)
- o General Dynamics, Groton, Connecticut, and St. Louis (326)
- + Large Japanese shipyards, MHI, IHI, etc. (303)

- o Ingalls Shipbuilding/Litton, California, Mississippi (302)
- o Avondale Shipyards, Inc., New Orleans (293)
- + Wartsila/Valmet, Helsinki, Finland (272)
- + Hyundai Shipbuilding, Ulsan, Korea (271)
- o Norfolk Shipbuilding and Dry Dock, Virginia (211)
- o Todd Shipyards Corp., Jersey City, New Jersey (210)
- + = International and requires a more complex approach.

#### THE SALES PLAN

A successful first call emphasizing the importance of the effort requires a high-level sales team. The team should include the Governor; Commission President and appropriate Commissioners; Senator Packwood or Senator Hatfield or Congressman AuCoin, as appropriate; and a high official of Oregon organized labor. A premeeting briefing is recommended.

<u>Week</u>	<u>Action</u>
1	Action plan approved.
2	Team coordination and calls to determine obstacles.
3	Candidate appointments arranged by team leaders.
4	Customized offerings and candidate information packages ready.
5	Sales team briefings on offer and candidates.
6	Face-to-face meetings occur.
7	Begin follow-up team and staff work.

#### THE OFFER

The offer will provide wide flexibility and a range of options for the candidate. It will address specific information on:

- o Price - emphasize economic development goals.
- o Markets - emphasize the range of opportunities and volumes.
- o Facility - stress the first-class technical capabilities.
- o Labor - emphasize the high availability and high quality.

- o Environment - stress the positive quality of the:
  - Political actions to assist the business.
  - Community involvement in support of the shipyard.
  - Industrial infrastructure in the region.
  - Social structure, schools, culture, quality of life.
  - Government cooperation, taxes, permits, tort.
  - Location advantages, weather, river.

All points are intended to reflect low barriers and advantages to the candidate to quickly create a growing and profitable enterprise with minimum capital and time expenditure.

- o Method of Operation - a range of options from the current multi-user concept to exclusive use and operational management of PSRY will be included in the offer.

#### THE PORT GOAL IN ECONOMIC DEVELOPMENT

The opportunity to shift the emphasis from self-sufficiency to aggressive pursuit of economic development will never be greater than it is today. The Port should elect to use the remaining debt service reserve fund as the vehicle to simultaneously attract a new company to PSRY and lower the cost to the current contractors. At current business levels, the bond debt will inevitably revert to the taxpayers. When it does, PSRY can be in the same or worse condition as today, or it can be the economic engine that the community expects. Accepting that greater risk means a better opportunity to meet the economic development goal.

Essentially, the voter-approved and legally restricted reserve fund (\$12 million) will be drawn down ahead of the projected 1991 depletion by lowering rates (hence revenues) at the shipyard. This will simultaneously attract a new contractor and make a further competitive rate reduction to the existing users. The "new" contracting base in the out-years will then be able to more easily repay the debt through increased PSRY volume.

#### THE PSRY MARKETING OBJECTIVE

The PSRY marketing objective in support of the economic development goal is to increase the share of the market that is available and obtained by the users. This can be accomplished through: collecting and disseminating market intelligence, developing and implementing measurement systems, separate and coordinated awareness raising in the market, pursuit of market opportunities not addressed by the contractors, and setting and participating in the political process to ensure that the economic development goal has appropriate attention.

## THE PSRY OPERATING OBJECTIVE

The PSRY operating objective in support of the economic development goal is to optimize use and ensure the technical integrity of the shipyard. This is accomplished through reconciling facility utilization to provide maximum throughput, providing innovative technical support, providing quality and timely service to the users, and managing the physical assets to ensure that the publicly owned facility is properly maintained.

## THE PSRY FINANCIAL OBJECTIVE

The PSRY financial objective in support of the economic development goal is to efficiently manage the Port financial resources required to support operations. This is accomplished through the management of user contracts and leases, collection and dissemination of financial data as management tools, management of capital programs, and support of the marketing and operating objectives.

## THE FLAWS ANALYSIS

There are a number of flaws and obstacles in attracting a new company to PSRY. Some are significant; some are minor—all can be overcome by positive action. The flaws and obstacles are:

- o Existing PSRY contractors, their political and banking constituency, will have to be convinced.
- o Organized labor must be made an active part of the team.
- o Previously approached candidates may have a "no" mind-set.
- o PSRY labor contract creates uncertainty.
- o PSRY's "open door" policy to contractors is a negative.
- o Regional labor reputation and perception as high-cost.
- o Resistance to investing in a perceived declining industry
- o Perceived lack of new markets and opportunities.
- o Portland is not seen as a Navy home port.
- o DSR and Lockport closing achieved national press.
- o DSR labor action achieved national press.
- o West Coast shipyard distress, Puget Sound, Bay Area.
- o Portland and PSRY have generally low-awareness quotients.

- o Oregon has a reputation as antibusiness and antidefense.
- o Shipbuilding of consequence was last done in Portland in 1975.
- o Oregon's action on Electrical Safety Law achieved national press.
- o Port participation in the enterprise may be seen negatively.
- o Local support infrastructure for shipbuilding is low.
- o Vessel arrests and poor performance on a major project.
- o The hassle of starting a new operation at great distance.
- o Resistance to a multiple-use facility and exclusivity.
- o Speed of proposal preparation will create less than perfect data.

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NATIONAL STEEL AND SHIPBUILDING COMPANY  
A Morrison Knudsen Company

POINTS OF CONTACT

William J. Deasey, President and CEO, MK, Boise, ID  
Richard H. Vortmann, President and CEO, NASSCO, San Diego, CA  
Trevor Lucey, VP Marketing, NASSCO, San Diego, CA

MK Directors: William Agee, William Douce, Robert McCabe, Velma Morrison, J.L. Scott, G.W. Gilfillan, K.M. Price, R.H. Vortmann

MARKET OPPORTUNITY AT PSRY

- Low technology ship construction, SWATH, tugs, processors
- Commercial ship repair, large tankers
- Cruise ship repair
- Everett/Puget Sound homeported naval ship repair including aircraft carriers and submarines
- On-shore and off-shore industrial fabrication
- Rail car and locomotive rebuilding and repair
- Dry dock construction for Navy replacements
- Waste management construction
- Added political support for all lines of business

VIEWPOINT

- o Shipbuilding is drying up and the repair capability at San Diego is limited to the 25,000-ton dry dock there.
- o Resistance to further investment in declining industry.
- o Current opposes efforts to remove Navy work from homeports.
- o MK has money to invest but may be considering spinning off NASSCO.
- o Current backlog of shipbuilding work is low so capacity is available in San Diego. Pursuing LSD cargo variant project.

ASSESSMENT

NASSCO (and the M-K connection) have the ability to pursue all markets available to PSRY. They have all the necessary resources and an interest in growing. There is a good possibility for success in bringing NASSCO to PSRY.

#### BATH IRON WORKS CORPORATION

A Leveraged Buy-out and Management-Owned Company, Prudential Life Insurance and Gibbons Green Van Ameronsen Ltd (Inc.)

#### POINTS OF CONTACT

William E. Haggett, President and CEO, Bath, ME  
James Blenkhorn, VP Business Development, Bath, ME  
William E. Graham, VP Sales and Marketing, Bath, ME  
Roy Reed, VP Marketing, Bath, ME

Len Thorell, former GM Todd San Pedro, now VP Bath Iron Works Corporation West Coast Operations, San Diego, CA, selling technology for foreign naval ship and submarine construction

#### MARKET OPPORTUNITIES AT PSRY

- Logistic support base for foreign naval ship construction
- Commercial ship repair
- Everett/Puget Sound homeported naval ship repair
- Completion of the USCG FRAM project (8 ships) on West Coast, if Todd stumbles. Bath has four of same job in Maine, JV with Todd.
- Quid pro quo to solve cost problems on DDG/CG for establishing a West Coast complex overhaul base.
- Low technology shipbuilding, SWATH, MHC, tugs etc.
- Added political support for current business

#### VIEWPOINT

- o Current difficulty with cost over-runs on DDG/CG programs
- o Investors concerned that company purchase was overvalued
- o Leveraged buy-out has left little or no discretionary capital
- o Engineering staff currently at overload
- o Bath sees Pacific Rim as the future for naval programs
- o Sees shipbuilding orders drying up but there is probably going to be enough on-going work to keep Bath fairly busy

#### ASSESSMENT

BIW would be a distinctive addition to PSRY. Although their resources are currently limited, they will continue as a major shipbuilding entity. The chances for success in attracting BIW to PSRY are quite good.



## NEWPORT NEWS SHIPBUILDING AND DRY DOCK COMPANY

A Tenneco Company

### POINTS OF CONTACT

James L. Ketelson, Chairman and CEO, Tenneco, Houston, TX  
J.P. Diesel, President, Tenneco, Houston, TX  
Edward J. Campbell, President, NNSBDD, Newport News, VA  
Myriad Executive Vice Presidents and Vice Presidents

Directors: W.M. Blumenthal, J.B. Foster, B.K. Johnson, B.J. Mackin,  
Sir David Plastow, J.J. Sisco

### MARKETING OPPORTUNITY AT PSRY

- First commercial facility on the West Coast for submarine repair.
- Aircraft carrier repair
- Low technology shipbuilding
- Everett/Puget Sound homeported ship repair
- On-shore and off-shore industrial fabrication
- Pipeline construction support
- Better access to Pacific Rim foreign naval ship construction and logistic support for technology export
- Added political support for all lines of business

### VIEWPOINT

- o Looking at West Coast presence
- o Currently opposes public/private competition for Navy work
- o Has a comfortable backlog and the leading position in the industry
- o Tenneco may still be considering a NNSBDD spin off
- o Chairman is focused on the tractor line of business

### ASSESSMENT

Newport News at PSRY would be a major achievement. The chances for success in courting them are low. The opportunity is so high that it is worth the investment in time to pursue them.

## GENERAL DYNAMICS CORPORATION, ELECTRIC BOAT DIVISION

A General Dynamics Company

### POINTS OF CONTACT

Stanley C. Pace, Chairman of the Board, GD, St. Louis, MO  
Fritz G. Tovar, VP/General Manager, Electric Boat, Groton, CT  
A.M. Barton, VP/Strategic Planning, Electric Boat, Groton, CT

Directors: J.S. Crown, A.E. Jenner Jr., J.R. Mellor, Lester Crown,  
Milton Falkoff, E.H. Stein, O.C. Boileau, T.G. Ayers, H.E. Kapnick,  
D.S. Lewis, S.C. Pace, S.H. Hoch, R.W. Meyer Jr., H.F. Rogers, C.R.  
Vance

### MARKET OPPORTUNITIES AT PSRY

- Submarine repair base on the West Coast
- Submarine module fabrication
- Sophisticated naval combatant modernizations
- Added political support for all lines of business, particularly undecided defense programs, ATF, SSN-21 etc.

### VIEWPOINT

- o Already very comfortable with market position in business
- o Recently reopened Charleston facility to build sub parts to increase political base
- o Closed Quincy shipyard because of negative view of commercial opportunities
- o There is no commercial yard for subs in the Pacific
- o Known to be looking for sub maintenance operation
- o Can't pursue other lines of marine or industrial business at Groton. No room to grow or diversify technological base.

### ASSESSMENT

The incremental addition of PSRY to GD's operations will hardly be noticed. The chance for success is probably limited but worth the investment of time. The reward would be large for PSRY and existing Contractors would be least disturbed.

INGALLS SHIPBUILDING DIVISION  
Litton Systems, Inc.

POINTS OF CONTACT

Fred W. O'Green, Chairman and CEO, Litton, Beverly Hills, CA  
Gerald J. St. Pe, President, Ingalls, Pascagoula, MS  
R.L. Marler, VP Business Development, Ingalls, Pascagoula, MS

Directors: F.W. O'Green, Joseph T. Casey, Robert H. Lentz,

MARKET OPPORTUNITIES AT PSRY

- Access to Everett/Puget Sound homeported naval repairs
- Low technology shipbuilding
- West Coast base for complex overhauls and post shake down availability work on Ingalls new buildings
- On-shore and off-shore industrial fabrication
- Added political support for all lines of business including undecided defense programs

VIEWPOINT

- o Ingalls has a large backlog and enjoys the leadership position for naval surface combatants
- o Current facility and location limits that potential to do other things
- o Litton has the money (\$1 billion cash) to invest
- o Overall resistance to investment in a declining industry
- o West Coast base for logistic support of foreign navy shipbuilding on the Pacific Rim
- o Navy may discourage this kind of direct competition with Todd who is in bad financial shape
- o Ingalls is operationally balanced and very profitable

ASSESSMENT

The addition of Ingalls would be a major achievement for PSRY. The chances for success are limited, but the potential rewards are worth the time to pursue them.

NORFOLK SHIPBUILDING AND DRYDOCK CORPORATION  
A Closely Held Corporation

POINTS OF CONTACT

John L. Roper III, Chairman of the Board, Norshipco, Norfolk, VA  
Charles Eure Jr., President, Norshipco, Norfolk, VA  
Carlos Agnese, Senior VP, Norshipco, Norfolk, VA

Directors: W.D. Payne, VP Production, L.C. Ackerman. O.R. Yates, W.H. Jory

MARKET OPPORTUNITIES AT PSRY

- Doubling of market opportunities in the same lines of business now pursued
- Access to Everett/Puget Sound homeported combatants
- Access to further AO 177 class Phased Maintenance work as now contracted on the East Coast
- Additional political support for current business

VIEWPOINT

- o Currently opposes efforts to release Navy homeported repair
- o Family-owned business with deep roots in Virginia
- o Undergoing internal disputes (John vs. George Roper) on how the business should be run
- o Should perceive a barrier to growth in the single current location
- o Has a single labor contract with better work rules than could be achieved in PSRY
- o Little discretionary capital for expansion

ASSESSMENT

Norshipco is a quality company that would pursue all the current lines of business at PSRY except shipbuilding. They would be a good addition to PSRY but would be in direct competition with the current Contractors. Chances for success are good.

TODD SHIPYARDS CORPORATION  
A Publicly Traded Company

POINTS OF CONTACT

David W. Wallace, Chairman and CEO, TSC, Jersey City, NJ  
John T. Gilbride, Jr., President, TSC, Jersey City, NJ  
Clifford E. Jones, VP Resources, TSC, Jersey City, NJ

Directors: Hans K. Schaefer, D.P. Davison, H.A. Eckmann, W.H. George,  
C.D. Mallory Jr., Sir David Nicholson, R.V. O'Brien, W.H. Todd, J.T.  
Gilbride Sr., L.D. Black

MARKET OPPORTUNITY AT PSRY

- Close Seattle, bring their large drydock to PSRY and set up a low cost operation
- Access to large tanker work
- On-shore and off-shore industrial fabrication
- Additional political support for Navy agenda with some losses on the Washington State side

VIEWPOINT

- o Currently in very deep financial difficulty
- o Reorganizing to pursue navy repair work only
- o Currently opposes releasing homeported Navy repair work
- o No discretionary capital
- o Reduction in overhead forecloses pursuit of foreign naval construction
- o Looking for a partner to help bail out the company
- o Sentimentally attached to Seattle
- o Has USCG FRAM job on eight ships

ASSESSMENT

It will be difficult to get Todd's attention during their current financial difficulty. September 1, 1987, is a watershed date for Todd. They will have financing or declare Chapter 11 by that time. Todd would be positioned to pursue all lines of business at PSRY, including direct competition with the current contractors. Chances for success are good after finances are straightened out.

AVONDALE INDUSTRIES INC.

Employee-owned business

POINTS OF CONTACT

Albert L. Bossier Jr., Chairman and CEO, AII, Gretna, LA  
Thomas M. Kitchen, CFO, AII, Gretna, LA  
Mel Colen, VP Marketing, AII, Gretna, LA

Directors: A.L. Bossier (pron "Bojay"), T.M. Kitchen, R. Brunner. C.G. Caras, D.A. Krenz, J.M. Russo, K. DuPont

MARKET OPPORTUNITY AT PSRY

- Expanded base of opportunity in all markets
- Currently limited to non-combatant navy and commercial shipbuilding which is at an all time low
- On-shore and off-shore industrial fabrication beyond Gulf
- Everett/Puget Sound homeported naval ship repair
- Alaska tanker fleet, AII built many of them
- Low technology shipbuilding, SWATH, processors, etc
- Added political support for current lines of business

VIEWPOINT

- o Employee buy-out has left little discretionary capital
- o Current dispute as to the value of assets purchased from Ogden
- o Currently non-union and anxious to stay that way
- o Not renown for thinking beyond New Orleans area
- o Already has large under-utilized facilities
- o Not technologically positioned to address foreign navy construction
- o Pursuing LSD cargo variant
- o Low backlog of business

ASSESSMENT

Although Avondale would be a good technological addition to PSRY, their desire to remain non-union would be problematic. Chance for success in attracting Avondale are very small.

PORTLAND SHIP REPAIR YARD

BUSINESS PLAN

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### MISSION

- o Increase Market Share for PSRY Contractors
- o Strengthen the Local Economy
- o Provide Stable Employment
- o Produce a Financial Return to:
  - Support Operations
  - Invest in Existing Facilities
  - Fund New Ventures
- o Identify and Pursue New Business Venture in Priority
  - 1. Ship Repair, Shipbuilding and Ship Conversion
  - 2. Complementary Industrial Projects
  - 3. New Ventures that Reinforce Primary Objectives

PSRY

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## THE GOAL

- o Active Pursuit of All Market Segments

Segment	Opportunity
U.S. Tank Ships	\$ 76,000
Shipbuilding	250,000
U.S. Navy Ships	600,000
U.S. Cargo Ships	15,000
Other Govt. Ships	70,000
Foreign Cargo	100,000
Cruise Ships	50,000
Tugs, Barges, Fish	15,000
Module Construct	100,000
New Ventures	\$ 10,000

- o Grow the Share of Market Available
- o Grow a Strong Contractor Base
- o Large Project Bonding Capacity
- o Continue Implementation of the Strategic Plan
- o Annual Sales Volume of \$200 Million
- o Annual Employment of 2,500-3,000 FTE's

PSRY

U.S. TANK SHIPS

Market Size (000's): \$76,000

Market Driver: Oil Price/Demand

Market Direction: Slow Decline

Share Available: 80%

Share Determinant: Price

Share Direction: Slow Decline

National Competition: Decreasing

Foreign Competition: Increasing

Action: Selective Incentive Pricing

Oppose Alaska Oil Export

Support ANWR Development

Strengthen Ad Valorem Duty Application

Improve Productivity

PSRY

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U.S. NAVY SHIPS

Market Size (000's):       \$600,000  
Market Driver:            Defense Spending  
Market Direction:         Cyclical  
Share Available:           30%  
Share Determinant:         Price  
Share Direction:          Increasing  
Regional Competition:     Decreasing  
Foreign Competition:      Steady

Action:       Support Everett Carrier Task Group  
              Improve Productivity  
              Enhance Navy Support Facilities  
              Obtain Homeport for Navy Reserve Ships (FF's and MCM's)  
              Offer Competitive Tariff Structure

PSRY

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OTHER U.S. GOVERNMENT SHIPS  
(USCG, MARAD, COE, NOAA, Alaska Marine Highways)

Market Size (000's):       \$70,000  
Market Driver:           Defense Spending  
Market Direction:       Cyclical  
Share Available:         50%  
Share Determinant:       Price  
Share Direction:        Increasing  
Regional Competition:   Decreasing  
Foreign Competition:    Decreasing

Action:           Expand USCG Homeport Areas  
                  Expand NOAA and MSC Bidding Areas  
                  Modify MARAD Bonding Requirements  
                  Obtain Further MARAD RRF Ship Berthing  
                  Offer Competitive Tariff Structure  
                  Oppose Alaska Marine Highways Homeporting

PSRY

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CRUISE SHIPS

Market Size (000's):       \$50,000  
Market Driver:           Leisure Spending  
Market Direction:        Increasing  
Share Available:         50%  
Share Determinant:    Service and Price  
Share Direction:        Increasing  
Regional Competition:   Steady  
Foreign Competition:    Steady

Action:           Raise Cruise Community Awareness  
                  Aggressive Pricing First Time Customer  
                  Invest in Modest Cruise Ship Facilities  
                  Partnerships With Travel Industry and Contractors

PSRY

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## MODULE CONSTRUCTION

Market Size (000's):        \$100,000  
Market Driver:               Oil Price  
Market Direction:        Forecast Increase  
Share Available:            30%  
Share Determinant:        Labor Costs  
Share Direction:           Increasing  
Regional Competition:      Steady  
Foreign Competition:      Increasing

Action:     Support ESL Exemption for Modules

             Support ANWR Development

             Invest in Facility to Handle Larger Projects

             Raise Awareness in Oil and Mining Community

             Pursue Identified Opportunities

             Work with OEDD and OPG

PSRY

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## SHIPBUILDING

Market Size (000's):       \$250,000  
Market Driver:            Defense Spending  
Market Direction:         Cyclical  
Share Available:           20%  
Share Determinant:         Price  
Share Direction:           Decreasing  
Regional Competition:     Decreasing  
Foreign Competition:       Steady

Action:                   Pursue Niche Opportunities

    Pursue Army Tugs, TAGOS, MCM's and Surimi Processors

    Develop Engineering for Land Level Launching

    Develop Workforce Skills Center

    Raise Customer Awareness

    Seed Cornerstone Business Activity

PSRY

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U.S. CARGO SHIPS

Market Size (000's):       \$15,000  
Market Driver:            Local Cargo Traffic  
Market Direction:         Decline  
Share Available:           20%  
Share Determinant:         Price  
Share Direction:          Decline  
Regional Competition:     Steady  
Foreign Competition:     Increasing

Action:                   Obtain Portland Cargo Service  
                          Offer Interport Offsetting Incentives  
                          Support Efforts to Bolster Industry

PSRY

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FOREIGN FLAG CARGO SHIPS

Market Size (000's):        \$100,000  
Market Driver:                Trade  
Market Direction:            Decreasing  
Share Available:               5%  
Share Determinant:            Price  
Share Direction:              Slow Decline  
Regional Competition:        Steady  
Foreign Competition:         Increasing

Action:                    Provide Packaged Incentives

Make Export of Ship Repair Services a Trade Issue

Explore Barter Deals of Needed Port Assets

Offer Fleet Incentives

Develop Credible Diesel Engine Service Capacity

Develop Repair Tariff on Foreign Model

PSRY

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TUGS, BARGES AND FISHING VESSELS

Market Size (000's):       \$15,000  
Market Driver:            Ag Trade and Fishing  
Market Direction:        Decline and Boom  
Share Available:           20%  
Share Determinant:        Price  
Share Direction:          Increasing  
Regional Competition:     Steady  
Foreign Competition:      Steady

Action:    Raise Awareness in the Fishing Community  
          Invest in Modest Market Specific Facility Improvements  
          Offer Competitive Tariff Structure  
          Get Smart on Customer Needs

PSRY

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NEW VENTURES

Market Size (000's):           \$?  
Market Driver: Oil Price and Defense Spending  
Market Direction:           Cyclical  
Share Available:           \$10,000,000  
Share Determinant: PSRY Facilities/Labor  
Share Direction:           Cyclical  
Regional Competition:   Decreasing  
Foreign Competition:   Increasing

Action:       Exploit New Ventures as Discovered  
          Pursue Opportunities Providing Stable Income  
          Invest in Modest Facility Modifications  
          Import New Methods and Technology

PSRY

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# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 21, 1987

Loy Kahler  
Cascade General  
5555 N. Channel Ave.  
Portland OR 97217

## PSRY PERMIT OF ENTRY / NOTICE OF TERMINATION

This is to advise you that pursuant to the Permit of Entry proposed by the Port and dated August 31, 1987, for the above referenced facility, any rights you have under that permit are terminated as of midnight, 30 days from the date of this notice. Although Cascade has not yet returned a signed Permit, the Port assumes you accepted the terms by virtue of the fact that you have occupied the facilities. The reason for termination is as follows:


- o The permit was an accommodation to Cascade to allow completion of your financing requirements. The permit was not to be a substitute for execution of lease agreements for space needed by Cascade. Since Cascade has executed the leases agreed to, the Permit serves no further purpose.

I remain available to assist in the orderly processing of other documents required by the Port. It is important that Cascade complete their presentation to the Port Commission prior to the termination date of the Month-to-month leases (November 30, 1987) or be prepared to vacate prior to that date. The next regular Commission meeting will be October 14. We should be prepared to meet with the Commission around that date. I have included a copy of the draft Policy for Qualifying General Contractors (Attachment A) to guide your efforts.

Loy Kahler  
September 21, 1987  
Page 2

Also enclosed (Attachment B) is an analysis of the rental rates for DSR's offices, Building 71.

If I can be of further assistance, please call at 231-5526.



Guy J. Alvis, General Manager  
Portland Ship Repair Yard

/kw

Enclosures

cc: Denny West  
Dean Phillips  
Bill Zavin  
Doug Watson

DRAFT 2

PORTLAND SHIP REPAIR YARD

POLICY FOR QUALIFYING GENERAL CONTRACTORS

SEPTEMBER 8, 1987

POLICY STATEMENT

It is the policy of the Port of Portland in administering the Use Agreement and Leases of the Portland Ship Repair Yard that qualifying general contractors will demonstrate:

1. The ability to perform, including the ability to perform quality work in the markets being pursued and the general business strength and competence to assure payment for use of Port facilities and services; and
2. The physical capacity of the yard to accommodate the business intent of the contractor to use on a regular, ongoing basis without requiring capital investment by the Port beyond agreed upon improvements; and
3. The adequacy of markets available to PSRY to accommodate an additional contractor without creating a hardship, actions that will result in more work coming to PSRY, and actions that will limit division of the existing markets; and
4. The willingness to support the general objectives of PSRY to operate as a cooperatively managed, shared use facility without public subsidy and to build a strong industrial base in the Portland area for:
  - o ship repair, ship conversion, ship construction, and marine related fabrication; and
  - o stable employment of a skilled labor force; and
  - o opportunities for suppliers and subcontractors; and
  - o a reputation for quality workmanship and fair business practices.

Contractors will be required to demonstrate compliance with Port policy by providing documentation to PSRY staff. Staff will review contractor documentation and report to the Port Commission. Contractors may clarify their position before the Commission or by supplemental documentation presented to staff. The staff review will be confined to established criteria.

1. ABILITY TO PERFORM

The Port may limit the number of general contractors when a firm fails to demonstrate sufficient resources to fulfill their obligations to customers, suppliers, employees, or the Port. In general, the Port will use the following criteria:

- A. Sufficient capitalization in relation to the Business Plan.
- B. Access to cash sufficient to guarantee that the Port will be paid for use of the yard, as evidenced by:
  - 1. Committed lines of credit from financial institutions;  
or
  - 2. The posting of performance bonds; or
  - 3. Other financial information sufficient to establish financial strength.
- C. Adequate insurance against liability for carrying out work as evidenced by insurance certificates.
- D. Access to the equipment necessary to perform the work envisioned in the business plan. Evidence will be submitted in the form of equipment lists and equipment plans.
- E. The organization and structure to be successful, access to qualified personnel capable of performing quality work, and formal business plan. Evidence will be provided in the form of:
  - 1. Articles of incorporation including:
    - a. disclosure of individuals owning ten percent or more of the stock in the corporation
    - b. the board of directors
    - c. disclosure of related companies and corporations

2. Manpower plans, labor agreements, and/or personnel policies that include:
    - a. organizational chart
    - b. resumes of key officers and staff
    - c. wage and salary structure
    - d. work rules, policies, or procedures
    - e. employee benefits
    - f. training and development programs
    - g. certification of skills
    - h. safety program and safety history
    - i. retirement plans, profit sharing, or employee ownership
  3. Business plans that include:
    - a. market analysis
    - b. business strategy
    - c. business history
  4. Evidence of customer interest.
- F. A history of business integrity and an absence of breaching contractual obligations to public and private contracting agencies as evidenced by:
1. Reports from recognized credit rating services.
  2. Disclosure of pending litigation and legal history.
  3. Audited annual financial statements and reports.
  4. Current financial statements and reports.



2. YARD CAPACITY

The Port may limit the number of general contractors when a firm fails to demonstrate that the physical facilities available are adequate to accommodate additional work. In general, the Port will use the following:

- A. The time available on the drydocks and at the repair berths is adequate to do the projected work.
- B. The availability of backup area and space for fabrication and other work is sufficient.
- C. The quantity of work, jobs produced, and revenues generated for the Port is sufficient to warrant the commitment of the space requested.
- D. The firm is prepared to commit to long-term leases and other agreements to secure the Port's requirements for the use of existing or proposed facilities.

3. AVAILABLE BUSINESS

The Port may limit the number of general contractors when a firm fails to demonstrate that the markets available to PSRY are sufficient to accommodate the business intent. In general, the Port will use the following:

- A. The capability to attract new markets to PSRY.
- B. The capacity of existing markets to support the business plan without undermining the viability of other general contractors.
- C. Conditions which indicate the inadequacy of other general contractors to fully penetrate markets available to PSRY.

D. (A Ben V. Hunt)

4. SUPPORT FOR PSRY OBJECTIVES

The Port may limit the number of general contractors when a firm fails to demonstrate that it will actively support the objectives of the Portland Ship Repair Yard. In general, the Port will use the following:

- A. Securing through long-term lease of sufficient appropriate buildings and yard space to conduct the operations envisioned in the firm's business plan or purchase and ownership of properties immediately adjacent to PSRY and willingness to enter into the Port's standard Use Agreement.
- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
- D. Support through patronage of centrally supplied support services for ballast water treatment, steam generation, compressed air, fueling services, storage of flammable liquids, painting and sandblast operations other than on a vessel and other central services as they may be defined by the Shipyard Manager.
- E. Compliance with the general principles of fair business conduct including:
  - 1. Cooperation with other general contractors at PSRY and the Port of Portland.
  - 2. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
  - 3. Willingness to do business with all suppliers and subcontractors on an equitable basis.
  - 4. Support for the freedom of suppliers and subcontractors to freely pursue business from all general contractors.

DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

September 8, 1987

Page 6

5. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
  6. Observation of fair practices with respect to the employees, support for equal employment opportunity and affirmative action goals, and respect for worker's rights to grievance resolution and representation.
  7. Willingness to seek negotiated settlements in disputes with customers, suppliers, subcontractors, other general contractors, employees, or others and to confine areas of disagreement to limited issues wherever possible.
  8. Avoidance of behavior that will tend to drive work away from PSRY or diminish customer confidence in PSRY.
- F. Agreement to pay a share of the fixed expenses associated with providing services such as security, first aid, and other general benefit programs.
- G. Prompt payment of the Port, employees, subcontractors, and suppliers for all amounts due.
- H. Compliance with other rules and policies as may be necessary to secure the objectives of PSRY as defined by the Shipyard Manager.

(WK #8)

NWMAR134205



# Port of Portland

Box 3529 Portland, Oregon 97208  
503/231-5000  
TWX: 910-464-5105

September 21, 1987

Loy Kahler  
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5555 N. Channel Ave.  
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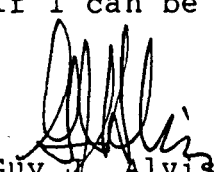
Port of Portland offices located in Portland, Oregon, U.S.A., Boise, Idaho, Chicago, Illinois, New York, N.Y., Washington, D.C., Hong Kong, Manila, Seoul, Singapore, Sydney, Taipei, Tokyo, Henley-on-Thames, England

NWMAR134206

Loy Kahler  
September 21, 1987  
Page 2

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Guy J. Alvis, General Manager  
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DRAFT 2

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    - a. disclosure of individuals owning ten percent or more of the stock in the corporation
    - b. the board of directors
    - c. disclosure of related companies and corporations

2. Manpower plans, labor agreements, and/or personnel policies that include:
    - a. organizational chart
    - b. resumes of key officers and staff
    - c. wage and salary structure
    - d. work rules, policies, or procedures
    - e. employee benefits
    - f. training and development programs
    - g. certification of skills
    - h. safety program and safety history
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DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

September 8, 1987

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3. AVAILABLE BUSINESS

The Port may limit the number of general contractors when a firm fails to demonstrate that the markets available to PSRY are sufficient to accommodate the business intent. In general, the Port will use the following:

- A. The capability to attract new markets to PSRY.
- B. The capacity of existing markets to support the business plan without undermining the viability of other general contractors.
- C. Conditions which indicate the inadequacy of other general contractors to fully penetrate markets available to PSRY.

D. *Caron V. Hunt*

4. SUPPORT FOR PSRY OBJECTIVES

The Port may limit the number of general contractors when a firm fails to demonstrate that it will actively support the objectives of the Portland Ship Repair Yard. In general, the Port will use the following:

- A. Securing through long-term lease of sufficient appropriate buildings and yard space to conduct the operations envisioned in the firm's business plan or purchase and ownership of properties immediately adjacent to PSRY and willingness to enter into the Port's standard Use Agreement.
- B. Acceptance of a general schedule of minimum rates for leased space, utilities, services and Port financed improvements.
- C. Compliance with PSRY rules regarding security, yard access, parking, identification badging, vehicle speed limits, vessel gas freeing and inerting, fire safety, environmental standards, design standards, signing standards, personnel safety including enforcement of the wearing of hard hats, safety glasses, and dust masks where required, maintenance of clean and orderly workplace, and other rules as they may be defined by the Shipyard Manager.
- D. Support through patronage of centrally supplied support services for ballast water treatment, steam generation, compressed air, fueling services, storage of flammable liquids, painting and sandblast operations other than on a vessel and other central services as they may be defined by the Shipyard Manager.
- E. Compliance with the general principles of fair business conduct including:
  - 1. Cooperation with other general contractors at PSRY and the Port of Portland.
  - 2. Provision of use of equipment or services to all customers without prejudice and at fair market rates.
  - 3. Willingness to do business with all suppliers and subcontractors on an equitable basis.
  - 4. Support for the freedom of suppliers and subcontractors to freely pursue business from all general contractors.

DRAFT POLICY FOR QUALIFYING GENERAL CONTRACTORS

September 8, 1987

Page 6

5. Support for efforts of the Port of Portland and other general contractors to build customer confidence and loyalty to PSRY.
  6. Observation of fair practices with respect to the employees, support for equal employment opportunity and affirmative action goals, and respect for worker's rights to grievance resolution and representation.
  7. Willingness to seek negotiated settlements in disputes with customers, suppliers, subcontractors, other general contractors, employees, or others and to confine areas of disagreement to limited issues wherever possible.
  8. Avoidance of behavior that will tend to drive work away from PSRY or diminish customer confidence in PSRY.
- F. Agreement to pay a share of the fixed expenses associated with providing services such as security, first aid, and other general benefit programs.
- G. Prompt payment of the Port, employees, subcontractors, and suppliers for all amounts due.
- H. Compliance with other rules and policies as may be necessary to secure the objectives of PSRY as defined by the Shipyard Manager.

(WK #8)

NWMAR134213

**NORTHWEST MARINE IRON WORKS**  
**SAFETY ISSUES CONCERNING THE**  
**PORT OF PORTLAND**

(12/3/87)

**DD #3 WINGWALLS:**

Wingwalls are extremely slippery in wet weather conditions and pose a dangerous situation for the high volume of traffic in that area. Employees have regularly complained to the Safety Department and requested their complaints to be carried to the Port. The Northwest Marine Iron Works Safety Department has notified the Port several times of the continuing problem.

**PORT BATHROOMS:**

Employees complain of the lack of adequate cleaning to maintain the Port bathrooms in acceptable, sanitary condition. In addition, complaints of lack of soap, paper towels and toilet paper are regular and especially noted when there is a regular weekend work force. No weekend cleaning or restocking of the bathrooms by the Port has been noted.

**DD #3 WINGWALL LIGHTS:**

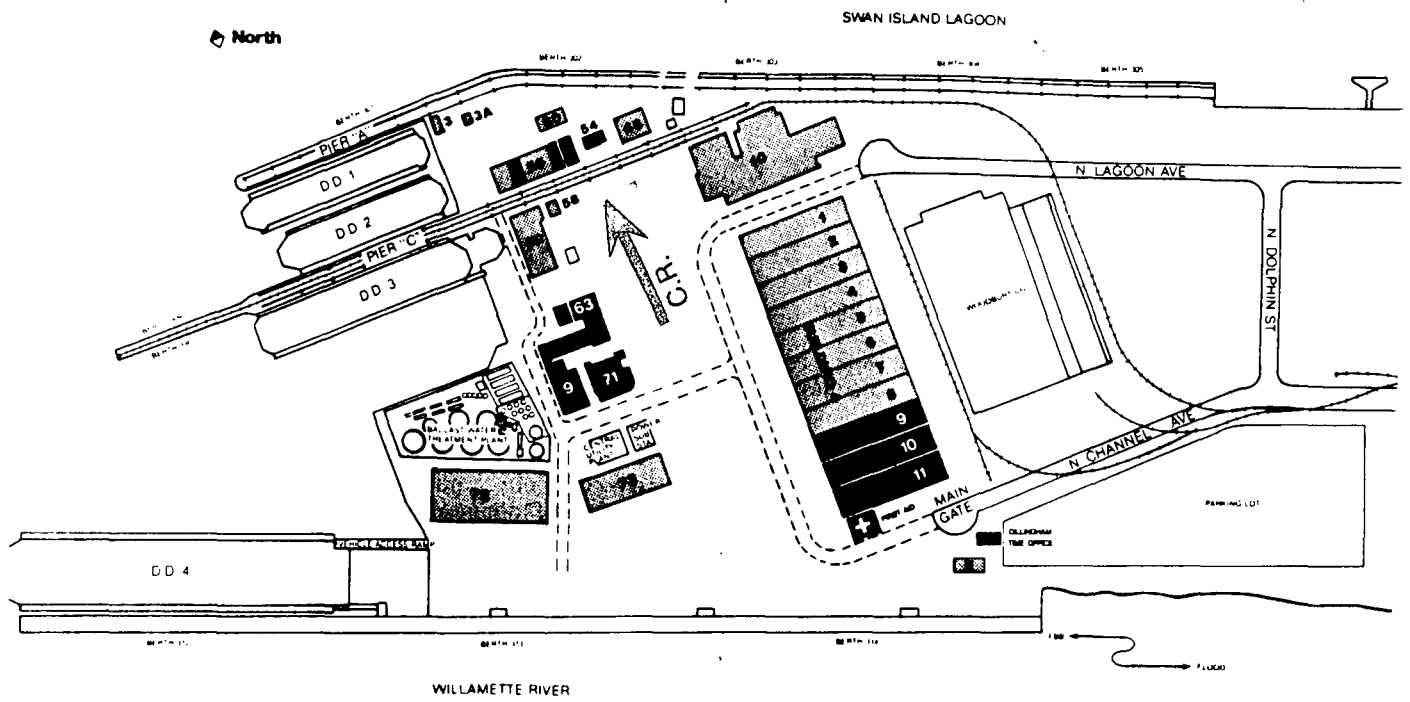
It has been noted and brought to the attention of the Port that only (6) of (27) lights which provide the lighting for pedestrian traffic on the dock-side wingwall or DD #3 are operational.

**VEHICLE ACCESS RAMP DD #4:**

The steel grating section of the vehicle access ramp to DD #4 provides such poor traction for vehicles that trucks pulling trailers must get a running start and hit the ramp at an unsafe speed to allow the momentum enough to insure that they can negotiate the ramp. The chance of a serious accident because of this is greatly increased.

**ROADWAY:**

A separation of the paving and the concrete blocks of the South side of the crane tracks in front of Bldg. 50 (map included) at the junction of two major Port roadways poses a danger to employees who regularly ride bicycles as a method of transportation within the Port. The chance of an accident greatly increases at night time and more so on rainy nights.



## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

#### U. S. NAVY

DULUTH	(5/86)	\$ 5,864,969	
CUSHING	(7/86)	1,052,403 (1)	
STORIS	(9/86)	2,197,276 (2)	
FOSTER	(7/88)	1,339,490	→ \$ 4,163,050 (4)
OKINAWA	( - )	<u>2,212,657 (3)</u>	
		\$ 12,666,795	→ \$ 15,490,355

#### MILITARY SEALIFT COMMAND

MERCY	(4/88)	\$ 104,000
KAWISHIWI	(8/88)	1,175,241
HIGGINS	(10/88)	<u>203,336</u>
		\$ 1,482,577

GRAND TOTAL(S)	\$ 14,149,372	→ \$ 16,972,932
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#### NOTES:

- (1) Settled, modification not received.
- (2) Includes \$207,415 settlement, modification not received.
- (3) Includes \$118,972 settlement, modification not received.
- (4) Costs documented on Forms 1411.

# NORTHWEST MARINE IRON WORKS

## OUTSTANDING GOVERNMENT ISSUES

### U.S. NAVY

	REA Value	Gov't Position	△	Billable
USS DULUTH (LPD-6) (Delivered 5/86)	\$ 5,864,969	\$ 172,358	\$ 5,692,611	\$ --
USS CUSHING (DD-985) (Delivered 7/86)	\$ 1,052,403	(Awaiting Contract Modification)		\$ 1,052,403
USCG STORIS (WMEC-38) (Delivered 9/86)	\$ 1,944,861	(To Be Submitted Week of 12/5)		\$ --
	207,415	(Awaiting Contract Modification)		207,415
	45,000	Price Proposals Yet To Be Negotiated		--
	<u>\$ 2,197,276</u>			<u>\$ 207,415</u>

	Max Mod Value	1411 Value
USS PAUL F. FOSTER (DD-964) (Delivered 7/88)		
a) VLS Kits	\$ 489,390	\$ 736,045
b) Sonar Kit	628,394	576,857
c) LAMPS Kit	370,351	872,928
d) Contract Extension	1,939,846	4,092,577
e) #2 Generator	<u>203,672</u>	<u>176,806</u>
	\$ 3,631,653	\$ 6,455,213
Unilateral Price Determination SupShip Seattle	<u>- 2,292,163</u>	<u>- 2,292,163</u>
	\$ 1,339,490	\$ 4,163,050

# NORTHWEST MARINE IRON WORKS

## OUTSTANDING GOVERNMENT ISSUES

U.S. NAVY (Continued)

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USS OKINAWA (LPH-3)  
(6/88 - 3/89)

### REA Value

a) Defueling	\$ 1,258,685	* Submitted 09/19/88
b) Asbestos	118,972	* Settled 12/1/88 at asked for price
c) Late Move-Off	300,000	* Not yet submitted; EDS 12/23/88
d) Freeboard	<u>535,000</u>	* To be submitted week of 12/5/88
	\$ 2,212,657	



## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

#### MILITARY SEALIFT COMMAND

---

	Value	Gov't Position	△	Billable
USNS MERCY (T-AH 19) (Delivered 4/88)	\$ 74,000	(Withheld For Drawings)		
	<u>30,000</u>	(Withheld For Spare Parts)		
	\$ 104,000			
 USNS KAWISHIWI (T-AO 146) (Delivered 8/88)	 \$ 452,539	 (REA/Late Contract Award)		
	185,061	(REA/Drydock Issues)		
	178,057	(REA/Testing Delays)		
	96,211	(REA/Propeller Shaft)		
	<u>263,373</u>	Retention Withheld		
	\$ 1,175,241			
 USNS HIGGINS (T-AO 190) (Delivered 10/88)	 \$ 99,061	 Retention Withheld		
	<u>104,275</u>	Unbilled Progress		
	\$ 203,336			
 TOTAL	 \$ 1,482,577			

## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

#### U. S. NAVY

DULUTH	(5/86)	\$ 5,864,969	
CUSHING	(7/86)	1,052,403 <sup>(1)</sup>	
STORIS	(9/86)	2,197,276 <sup>(2)</sup>	
FOSTER	(7/88)	1,339,490	→ \$ 4,163,050 <sup>(4)</sup>
OKINAWA	( - )	<u>2,212,657 <sup>(3)</sup></u>	
		\$ 12,666,795	→ \$ 15,490,355

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## OUTSTANDING GOVERNMENT ISSUES

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## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

U.S. NAVY (Continued)

---

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	<hr/>	
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## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

#### MILITARY SEALIFT COMMAND

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	<hr/>			
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	178,057	(REA/Testing Delays)		
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	<hr/>			
	\$ 1,175,241			
 USNS HIGGINS (T-AO 190) (Delivered 10/88)	 \$ 99,061	 Retention Withheld		
	104,275	Unbilled Progress		
	<hr/>			
	\$ 203,336			
 TOTAL	 \$ 1,482,577			

## NORTHWEST MARINE IRON WORKS

PREPARED:  
SATURDAY 12/03/88

	MON 28-Nov	TUE 29-Nov	WED 30-Nov	THUR 01-Dec	FRI 02-Dec	MON 05-Dec	TUE 06-Dec	WED 07-Dec	THUR 08-Dec	FRI 09-Dec	1 WEEK FRI 16-Dec	1 WEEK FRI 23-Dec	1 WEEK FRI 30-Dec	1 WEEK FRI 06-Jan
BEGINNING LOAN BALANCE	4,762	4,160	4,858	5,070	4,554	4,900	4,940	5,054	3,889	4,114	3,928	3,971	4,115	3,990
CASH DISBURSEMENTS														
SALARY PAYROLL			100								100		100	
HOURLY PAYROLL				15					15		15	15	15	15
PAYROLL TAX/BENEFITS		30				30					30		30	
DEBT SERICE		110									110		0	
COD/HANDWRITES	10	10	10	10	10	10	10	10	10	10	10	10	10	10
ACCTS PAY RELEASE - OHD, G&A,		350			156					400	180	280	219	380
PROJECT COSTS:														
LABOR				210					200		177	170	170	170
PAYROLL TAXES/BENEFITS		104					104				0	595	0	0
POP		94			100					100	100	100	100	100
FRINGE BENEFITS			102		130									
ACCTS PAY RELEASE														
SIPCO														
TOTAL DISBURSEMENTS	10	698	212	235	396	40	114	10	225	510	722	1,169	644	675
CASH RECEIPTS														
FOSTER								900						
OKINAWA	612			751						646	629	635	367	1,000
KAWISHIWI														
ZEUS														
EXXON BENICIA														
CLEARWATER														
MERCUR														
HIGGINS													352	
MERCY														
WEST COAST SHIPPING														
TROPICALE								275						
GOLDEN GATE												340		
OTHER					50					50	50	50	50	50
TOTAL RECEIPTS	612	0	0	751	50	0	0	1,175	0	696	679	1,025	769	1,050
ENDING LOAN BALANCE	4,160	4,858	5,070	4,554	4,900	4,940	5,054	3,889	4,114	3,928	3,971	4,115	3,990	3,615
LOAN LINE	5,250	5,250	5,250	4,500	4,500	4,500	4,500	4,350	4,350	4,350	4,350	4,350	4,250	3,550
UNDER (OVER) LINE	1,090	392	180	(54)	(400)	(440)	(554)	461	236	422	379	235	260	(65)
	28-Nov	29-Nov	30-Nov	01-Dec	02-Dec	05-Dec	06-Dec	07-Dec	08-Dec	09-Dec	16-Dec	23-Dec	30-Dec	06-Jan
BEGINNING ACCOUNTS PAYABLE	7,652	7,642	7,084	6,972	6,962	6,903	6,893	6,779	6,769	6,759	6,607	6,644	6,192	6,196
PAYMENTS	10	558	112	10	396	10	114	10	10	510	290	985	329	490
ADDITIONS:														
JOB COST														
PAYROLL TAXES/BENEFITS					104					104	92	110	110	110
MATERIAL					40					35	35	30	30	25
SUBCONTRACTOR					75					75	75	75	75	75
PORT OF PORTLAND					66					91	73	66	66	51
OVERHEAD (LESS PAYROLL COSTS)														
PRODUCTION					23					23	23	23	23	23
G & A					29					29	29	29	29	29
OTHER												200		
TOTAL ADDITIONS	0	0	0	0	337	0	0	0	0	357	327	533	333	313
ENDING ACCOUNTS PAYABLE	7,642	7,084	6,972	6,962	6,903	6,893	6,779	6,769	6,759	6,607	6,644	6,192	6,196	6,020

NWMAR134224

## NORTHWEST MARINE IRON WORKS

 PREPARED:  
 SATURDAY 12/03/88

1 WEEK FRI 13-Jan	1 WEEK FRI 20-Jan	1 WEEK FRI 27-Jan	1 WEEK FRI 03-Feb	1 WEEK FRI 10-Feb	1 WEEK FRI 17-Feb	1 WEEK FRI 24-Feb	1 WEEK FRI 03-Mar	1 WEEK FRI 10-Mar	1 WEEK FRI 17-Mar	1 WEEK FRI 24-Mar	1 WEEK FRI 31-Mar	1 WEEK FRI 07-Apr	1 WEEK FRI 14-Apr
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BEGINNING LOAN BALANCE	3,615	2,947	3,038	2,469	2,315	1,861	1,687	1,745	1,211	652	1,256	1,581	1,795	1,939
CASH DISBURSEMENTS														
SALARY PAYROLL		100		100		100		100		100		100		
HOURLY PAYROLL	15	15	15	15	15	15	15	15	15	15	15	15	15	15
PAYROLL TAX/BENEFITS	30		30		30		30		30		30		30	
DEBT SERICE		110				110				110				
COD/HANDWRITES	10	10	10	10	10	10	10	10	10	10	10	10	10	10
ACCTS PAY RELEASE - OHD, 6&A,	380	230	380	180	180	180	180	180	180	180	180	0	0	0
PROJECT COSTS:														
LABOR	138	138	138	138	106	106	106	106	38	38	38	38	38	26
PAYROLL TAXES/BENEFITS	10	439	8	103	6	6	417	6	1	101	1	1	1	0
POP	100	100	100	100	100	100	100	100	100	100	100	100	100	100
FRINGE BENEFITS														
ACCTS PAY RELEASE														
SIPCO														
TOTAL DISBURSEMENTS	683	1,141	681	645	446	626	858	516	374	654	374	264	194	151
CASH RECEIPTS														
FOSTER														
OKINAWA	1,000	1,000	1,000	750	750	750	750	1,000	884					
KAWISHIWI	300													
ZEUS														
EXXON BENICIA														
CLEARWATER														
MERCUR														
HIGGINS			200											
MERCY					100									
WEST COAST SHIPPING														
TROPICALE														
GOLDEN GATE														
OTHER	50	50	50	50	50	50	50	50	50	50	50	50	50	50
TOTAL RECEIPTS	1,350	1,050	1,250	800	900	800	800	1,050	934	50	50	50	50	50
ENDING LOAN BALANCE	2,947	3,038	2,469	2,315	1,861	1,687	1,745	1,211	652	1,256	1,581	1,795	1,939	2,040
LOAN LINE	3,200	3,150	2,650	2,600	2,450	2,400	2,600	2,434	1,500	1,450	1,400	1,350	1,300	1,250
UNDER (OVER) LINE	253	112	181	285	589	713	855	1,223	848	194	(181)	(445)	(639)	(790)

	13-Jan	20-Jan	27-Jan	03-Feb	10-Feb	17-Feb	24-Feb	03-Mar	10-Mar	17-Mar	24-Mar	31-Mar	07-Apr	14-Apr
BEGINNING ACCOUNTS PAYABLE	6,020	5,836	5,462	5,268	5,200	5,192	5,176	4,845	4,825	4,770	4,615	4,594	4,612	4,628
PAYMENTS	500	779	498	393	296	296	707	296	291	391	291	111	111	110
ADDITIONS:														
JOB COST														
PAYROLL TAXES/BENEFITS	91	91	91	91	73	73	73	73	33	33	33			
MATERIAL	25	20	20	15	15	15	10	10	10	10	10	1		
SUBCONTRACTOR	75	75	75	75	75	75	75	75	75	75	75	75	75	75
PORT OF PORTLAND	73	66	66	91	73	66	66	66	66	66	66			
OVERHEAD (LESS PAYROLL COSTS)														
PRODUCTION	23	23	23	23	23	23	23	23	23	23	23	23	23	23
G & A	29	29	29	29	29	29	29	29	29	29	29	29	29	29
OTHER		100					100				100			
TOTAL ADDITIONS	316	404	304	324	288	281	376	276	236	236	270	128	127	127
ENDING ACCOUNTS PAYABLE	5,836	5,462	5,268	5,200	5,192	5,176	4,845	4,825	4,770	4,615	4,594	4,612	4,628	4,645

## NORTHWEST MARINE IRON WORKS

PREPARED: MONDAY 12/19/88	MON 19-Dec	TUE 20-Dec	WED 21-Dec	THUR 22-Dec	FRI 23-Dec	MON 26-Dec	TUE 27-Dec	WED 28-Dec	THUR 29-Dec	FRI 30-Dec	MON 02-Jan	TUE 03-Jan	WED 04-Jan	THUR 05-Jan	FRI 06-Jan
BEGINNING LOAN BALANCE	3,985	4,193	4,107	4,107	4,227	3,361	3,361	3,425	3,425	3,605	3,468	3,468	3,771	3,791	3,936
CASH DISBURSEMENTS															
PREPETITION DEBT															
SALARY PAYROLL	35			30						130					
HOURLY PAYROLL				15					15					15	
PAYROLL TAX/BENEFITS				30					30					30	
DEBT SERVICE															
COD/HANDWRITES	50											20	20	20	20
ACCTS PAY RELEASE - OHD, G&A,	100											219			380
PROJECT COSTS:															
LABOR				185					185					130	
PAYROLL TAXES	23	659					64					64			
POP										100					100
FRINGE BENEFITS															
ACCTS PAY RELEASE															
SIPCO															
TOTAL DISBURSEMENTS	208	659	0	260	0	0	64	0	230	230	0	303	20	195	500
CASH RECEIPTS															
FOSTER															
OKINAWA		745			866					367					400
KAWISHIWI															
EXXON BENICIA															
MERCUR															
HIGGINS															
MERCY															
WEST COAST SHIPPING															
TROPICALE															
GOLDEN GATE				90											
OTHER				50					50					50	
TOTAL RECEIPTS	0	745	0	140	866	0	0	0	50	367	0	0	0	50	400
ENDING LOAN BALANCE	4,193	4,107	4,107	4,227	3,361	3,361	3,425	3,425	3,605	3,468	3,468	3,771	3,791	3,936	4,036
LOAN LINE	4,231	3,536	3,903	3,763	2,897	2,897	2,947	3,347	3,297	3,442	3,442	3,552	3,952	3,902	3,502
UNDER (OVER) LINE	38	(571)	(204)	(464)	(464)	(464)	(478)	(78)	(308)	(26)	(26)	(219)	161	(34)	(534)
=====															
	MON 19-Dec	TUE 20-Dec	WED 21-Dec	THUR 22-Dec	FRI 23-Dec	MON 26-Dec	TUE 27-Dec	WED 28-Dec	THUR 29-Dec	FRI 30-Dec	MON 02-Jan	TUE 03-Jan	WED 04-Jan	THUR 05-Jan	FRI 06-Jan
BEGINNING ACCOUNTS RECEIVABLE	2,485	2,731	2,036	2,403	2,263	1,397	1,397	1,447	1,847	1,797	1,942	1,942	2,052	2,452	2,402
ADDITIONS	246	50	367	0	0	0	50	400	0	512	0	110	400	0	0
COLLECTIONS	0	(745)	0	(140)	(866)	0	0	0	(50)	(367)	0	0	0	(50)	(400)
ADJUSTMENTS															
ENDING ACCOUNTS RECEIVABLE	2,731	2,036	2,403	2,263	1,397	1,397	1,447	1,847	1,797	1,942	1,942	2,052	2,452	2,402	2,002
RETENTION	2,223	2,223	2,264	2,264	2,264	2,264	2,264	2,308	2,308	2,308	2,308	2,308	2,353	2,353	2,353
OVERHEAD LINE	4,954	4,259	4,667	4,527	3,661	3,661	3,711	4,155	4,105	4,250	4,250	4,360	4,805	4,755	4,355
	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	6,454	5,759	6,167	6,027	5,161	5,161	5,211	5,655	5,605	5,750	5,750	5,860	6,305	6,255	5,855
LOAN LINE (W/O RETENTION)	4,231	3,536	3,903	3,763	2,897	2,897	2,947	3,347	3,297	3,442	3,442	3,552	3,952	3,902	3,502

No A/P Payments until 1/30

No COD Payments until 1/30



NORTHWEST MARINE IRON WORKS  
ACCOUNTS RECEIVABLE AGING - AS OF 12/19/88

VENDOR	CURRENT	30-60 DAYS	60-90 DAYS	OVER 90 DAYS	RETENTION	TOTAL A/R
AMSCO REFRIGERATION			105			105
ALCO	6,777					6,777
AVONDALE SHIPYARDS	511,944					511,944
BARBER STEAMSHIP				28,810		28,810
CWS CORP	263					263
CASCADE SHIPPING	4,352					4,352
CASCADE TRAILER			615	1,090		1,705
CHANTIERS D'ATLANTIQUE	1,500					1,500
CLARK ULLMAN	335					335
COLT INDUSTRIES	92					92
COLUMBIA FALLS ALUM	18,900					18,900
COMMERCIAL REPAIR	3,755					3,755
CONTINENTAL MARITIME	1,250					1,250
CUSTOM PIPE & TANK	2,728					2,728
DSU	158			210		368
EXPLORATION CRUISES			1,009			1,009
CPV PERUVIAN LINES	320					320
FREIGHTLINER	443					443
HOLLAND AMERICA CRUISE	3,674					3,674
HYUNDAI MERCHANT MARINE			5,295			5,295
JACKSON MACHINE	840					840
JERED BROWN BROTHERS	175					175
KEYSTONE CAPITAL	126,495					126,495
LSC MARINE				22,068		22,068
MARINE TRANSPORT	908					908
MERIT STEAMSHIP AGENCY	4,228					4,228
MOUNT TRAILER CO	706					706
CH MURPHY	421	1,528				1,949
NASH ENGINEERING	2,589					2,589
NW COPPER WORKS	2,236					2,236
NMIW-SHOP	602			196		798
PACIFIC MARINE DREDGING				1,800		1,800
PACIFIC MARINE SHIP REPAIR				4,019		4,019
PREMIER GEAR	70					70
PROGRESS ELECTRONICS	1,052	186	100			1,338
SEASpan INTERNATIONAL	8,948					8,948
SIPCO SERVICES			5,652			5,652
SOUTHERN OREGON MARINE	43,707			1,209		44,916
STAR SHIPPING	58,056					58,056
STRACHEN SHIPPING	9,562					9,562
SULCER ESCHER WYSS	1,353					1,353
SUNRISE SHIPPING AGENC	8,080		1,554	896		10,530
TRANSMARINE NAVIGATION				8,020		8,020
SUPSHIP-FOSTER	110,158					110,158
SUPSHIP-FOSTER RETENTION					26,105	26,105
SUPSHIP FOSTER TELEPHONE				23,028		23,028
SUPSHIP-OKINAWA	1,610,938					1,610,938
SUPSHIP-OKINAWA RETENTION					1,677,285	1,677,285
SUPSHIP-OKINAWA TELEPHONE		6,099				6,099
MSC-KAWISHIWI					263,373	263,373
MSC-MERCY					156,898	156,898
MSC-HIGGINS					99,061	99,061
MSC-HIGGINS BERTHAGE	21,453					21,453
UTILITY EQUIPMENT	450					450

NORTHWEST MARINE IRON WORKS  
 ACCOUNTS RECEIVABLE AGING - AS OF 12/19/88

VENDOR	CURRENT	30-60 DAYS	60-90 DAYS	OVER 90 DAYS	RETENTION	TOTAL A/R
WSI	372					372
WEST COAST SHIPPING	39,059					39,059
WESTERN ELEVATOR	1,005					1,005
WEYERHAUSER	7,058					7,058
CASH SALES				108		108
	2,617,010	7,813	14,330	91,454	2,222,722	4,953,329

TOTAL A/R 4,953,329  
 LESS RETENTION (2,222,722)

AVAILABLE 2,730,607  
 =====

1,500,000

4,230,607

*Available*



# NORTHWEST MARINE IRON WORKS

43

SHIP REPAIRERS  
GENERAL MACHINE WORK  
ENGINEERING

## INVOICE

MAIL PAYMENT TO:  
P.O. BOX 4000-58  
PORTLAND, OREGON 97208

Keystone Shipping Company  
313 Chestnut Street  
Philadelphia, PA 19106

DATE Dec. 19, 1988  
OUR JOB NO. 3402  
CUSTOMER'S ORDER NO.  
CONTRACT NO.  
INVOICE NO. 3402-G  
TERMS Net

CUSTOMER CODE NUMBER: 95557

Duns No. 00-902-8580

### S/S GOLDEN GATE

Agreed Total

\$3,926,495

Progress Payments:

Invoice No. 3402	(700,000)
Invoice No. 3402-A	(650,000)
Invoice No. 3402-B	(500,000)
Invoice No. 3402-C	(900,000)
Invoice No. 3402-D	(600,000)
Invoice No. 3402-E	(200,000)
Invoice No. 3402-F	(250,000)

NET AMOUNT DUE:

\$ 126,495

\* Excludes item 305 and 306  
of proforma invoice, also  
excludes items per attachments  
1, 2, and 3 of NMIW letter of  
November 16, 1988.

*Final  
O'Rourke  
Net*

PAST DUE PAYMENTS SHALL BEAR INTEREST AT THE HIGHEST LAWFUL RATE UNTIL REPAID, NOT TO EXCEED 1½% PER MONTH.

CORRESPONDENCE ADDRESS P.O. BOX 3109 PORTLAND, OREGON 97208 PHONE (503) 285-7557

NWMAR134229



SHIP REPAIRERS  
GENERAL MACHINE WORK  
ENGINEERING

# NORTHWEST MARINE IRON WORKS

## INVOICE

MAIL PAYMENT TO:  
P.O. BOX 4000-58  
PORTLAND, OREGON 97208

Supervisor of Shipbuilding  
Conversion & Repair, USN  
Seattle, Washington

DATE December 19, 1988  
OUR JOB NO. 3200  
CUSTOMER'S ORDER NO. EH 29  
CONTRACT NO. N00024-85-H-8197  
INVOICE NO. 3200-BD  
TERMS Net

CUSTOMER CODE NUMBER: 32201

Duns No. 00-902-8580

USS PAUL F. FOSTER (DD 964)

PROGRESS BILLING NO. 55

CONTRACT AWARD	\$26,423,466.00
MODIFICATIONS A000001 thru A000441 and A00453 (A000113, A000282, A000363, A000425 and A000439 omitted)	10,810,593.00
	<u>37,234,059.00</u>
PHYSICAL PERCENT COMPLETE	x 100.0%
	<u>\$37,234,059.00</u>
LESS 10% RETENTION	(3,723,406.00)
AUTHORIZED REDUCTION IN RETENTION TO DATE	<u>3,697,301.00</u>
	\$37,207,954.00
MODIFICATION A000113, A000282, A000363, A000425, A000439 and A000446 PERFORMANCE EVALUATION	<u>1,130,005.00</u>
	\$38,337,959.00
LESS PRIOR PAYMENTS	<u>(38,227,801.00)</u>
NET AMOUNT DUE	<u>\$ 110,158.00</u>

### (MEMO ONLY) BILLING SUMMARY

	Progress Billing No. 55	Job-To-Date
Billable value	\$ 110,158.00	\$38,364,064.00
10% Retention		<u>( 26,105.00)</u>
Net Amount Due	<u>\$ 110,158.00</u>	<u>\$38,337,959.00</u>

PAST DUE PAYMENTS SHALL BEAR INTEREST AT THE HIGHEST LAWFUL RATE UNTIL REPAID, NOT TO EXCEED 1½% PER MONTH.

CORRESPONDENCE ADDRESS P.O. BOX 3109 PORTLAND, OREGON 97208 PHONE (503) 285-7557

NWMAR134230



DEPARTMENT OF THE NAVY

SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR, USN

SEATTLE, WASHINGTON 98115-5003

IN REPLY REFER TO:

LPD6

Ser 400-5289

DEC 15 1988


Northwest Marine Iron Works  
5555 N. Channel Avenue, Bldg 2  
Portland, OR 97217

Dear Mr. Zavin,

The current status and progress towards resolution of the USS DULUTH claim is unsatisfactory. The fact finding sessions held and letter writing campaign between Northwest Marine Iron Works and SUPSHIP Seattle have not resolved a single substantive issue to date.

In order to overcome this impasse I propose to meet with you at SUPSHIP Seattle's Project Office in Portland at 0900 on 20 December 1988 to negotiate the DULUTH claim. I will bring both Bob Morrison and Gene Hulsey to this meeting. Our purpose is not to "fact find", but discuss in a frank and purposeful manner settlement of the DULUTH claim. I have caused a complete review of the USS DULUTH claim to be accomplished in Seattle and am comfortable with our position on these issues.

We are coming prepared to negotiate and sincerely hope you will be ready to do the same. I look forward to meeting with you on the 20th.

  
C. H. TUCKER  
Contracting Officer

Copy to:  
NAVSEA (SEA 02)

NWMAR134231



# NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

05 December 1988

Serial 2950-166

Supervisor of Shipbuilding  
Conversion and Repair, USN  
7500 Sand Point Way N.E.  
Seattle, Washington 98115

Attention: Mr. R. Morrison Contracting Officer

Subject: USCGC STORIS (WMEC-38)  
Contract No. N00024-85-H-8197; Request for Equitable Adjustment

- References:
- (a) NMIW Letter Serial 2950-120 Dated 22 May 1986
  - (b) SupShip Seattle Letter Serial 410-4749 Dated 3 June 1986
  - (c) NMIW Letter Serial 2950-131 Dated 17 June 1986
  - (d) NMIW Letter Serial 2950-138 Dated 23 June 1986
  - (e) NMIW Letter Dated 8 December 1986
  - (f) SupShip Seattle Letter Serial 410-7987 Dated 18 December 1986
  - (g) Taylor and Hintze Letter Dated 1 April 1987
  - (h) NMIW Letter Dated 10 June 1987
  - (i) SupShip Seattle Letter Dated 23 June 1987
  - (j) Taylor and Hintze Letter Dated 31 July 1987
  - (k) Taylor and Hintze Letter Dated 10 August 1987
  - (l) NMIW Letter Dated 17 November 1987
  - (m) SupShip Seattle Letter Serial 410-4873 Dated 1 December 1987
  - (n) NMIW Letter Dated 22 January 1988

Gentlemen:

By reference (a), NMIW notified the Government that new schedule milestone dates on the STORIS contract were required as a result of problems caused by inadequate Government furnished drawings.

By reference (b), the Contracting Officer responded by stating that no extension to the contract had been granted, but that the Contracting Officer would consider the Contractor's in-depth analysis of the causes for rescheduling. The Contracting Officer concluded that should an adequate justification for extension be presented, it would similarly be considered.

By reference (c), NMIW discussed some of the problems it incurred in attempting to meet the contractual delivery date:

. . . the lack of a complete, cohesive design for the main engine and related systems conversions has necessitated many on-the-job decisions by the parties with consequent verbal direction just to keep the job in progress. . .

Three interference items were issued to try to accommodate the many, but individually, and apparently small, problems encountered when completing system design during installation. Unfortunately, most of the charges were for correcting design deficiencies rather than interference removals and replacement. . .

Late authorization of several key changes, due primarily to incomplete or defective design, caused work to be scheduled in the very limited space available in concurrent time frames. This caused a dramatic loss of productivity while necessitating acceleration in an attempt to maintain the original work schedule. . .

Since no composite drawings exist of the engine room systems or the boiler flat systems, the total impact of these difficulties has not manifested itself until recently. As we progressed through the "rough-in" stage, we found that different piping, structural, ventilation and electrical components were competing for the same space if they were run according to their respective drawings. As a result, numerous systems have been installed, removed and reinstalled in different areas or configurations. The work out of the design deficiencies continues today on the deck plates. . .

We continue to believe that if the design and drawings had been complete and consequent changes had been fewer and timely, the job could have completed on-time and within budget. Current projections show the Contractor will use 45,000 to 50,000 hours beyond the negotiated budget by completion. . . .

In our analysis, we have determined what we feel is the extent of Government responsibility.

By reference (d), NMIW submitted a price proposal for the additional work to the main engine and related support systems. The certified proposal on the standard form 1411 listed a price of \$858,113.00 "due primarily to the lack of composites for the piping and other installations in the main engine room". No response was made to this price proposal submittal. Thereafter, by reference (e), NMIW submitted a request for equitable adjustment for repairs and modifications to the USCGC STORIS. As stated in the transmittal letter:

These costs arise from the fact that the Government furnished engineering was of extremely poor quality and did not adequately describe the work involved; and, also that certain change orders did not cover the work required. Engineering drawings proved to be of such quality that it was necessary to use point-and-try "floor plate engineering" almost entirely, and when change orders were issued they did not adequately describe the work involved and neither we nor the Government could properly price the proposal.

Within ten calendar days, the Contracting Officer responded by reference (f) stating that NMIW's request for equitable adjustment "has been thoroughly reviewed". The Contracting Officer stated that the positions taken by NMIW were incomplete, that NMIW had failed to show that the cost overruns were, in fact, all Government caused, or that the claimed costs were related to excess requirements of contract work. As a result, the Contracting Officer rejected the equitable adjustment and returned it. Subsequent to this rejection, NMIW notified the Contracting Officer that it would resubmit this request for equitable adjustment to comply with the Contracting Officer's comments.

In order to rectify the alleged discrepancies in reference (f), NMIW, through its attorney, requested documents via a Freedom of Information Act (FOIA) request as outlined in reference (g). Additionally, NMIW determined that to comply with reference (f), it may be necessary to visit the vessel to document the extent of the defective Government drawings. By reference (h), NMIW notified the Contracting Officer to request assistance in visiting the vessel. By reference (h), NMIW stated:

As you are aware, NMIW submitted a request for equitable adjustment on this contract on December 8, 1986, for extra work it performed by the direction and acceptance of SupShip Seattle project personnel that was not paid for under any change order or interference item. Your response dated December 18, 1986, stated that the claim lacked sufficient back-up documentation to support the Request. Although NMIW feels that the Request provided sufficient documentation for the Contracting Officer to render a decision, it appears that a thorough and detailed survey of the ship is necessary to resolve this matter. . . .

NMIW believes that the development of an as-built condition in comparison to all change order/interference items is the most effective way to satisfy the Government's response of December 18, 1986.

In response, the Contracting Officer, by reference (i), stated that NMIW could have access to the vessel and that the vessel would be in the home port of Kodiak, Alaska soon after 1 July 1987. The Contracting Officer stated that he would coordinate with Coast Guard representatives and advise the Contractor when the dates were firm. NMIW did obtain access to the vessel, verifying the existing ship system configurations, which have been used in this submittal to document the extent of the design deficiencies.

NMIW continued to obtain data to support its position and respond to the Contracting Officer's letter of reference (f) by submitting further FOIA requests through references (j) and (k). By reference (l), NMIW provided the Contracting Officer with a status of its supporting documentation, "the STORIS REA will be completed and submitted to SupShip Seattle at the end of January, 1987." In response to reference (f), the Contracting Officer by responded by reference (m) wherein the Contracting Officer confirmed that the original REA had been rejected by his letter of 18 December 1986. Additionally, the Contracting Officer suggested that several items of change, not associated with the REA, should be priced and submitted for review and negotiation separate from the REA. NMIW submitted these separate change items on August 24, 1987 and has negotiated a settlement of these items during October, 1988.

Finally, by reference (n) NMIW provided the Contracting Officer with an additional status of its review and redocumentation of the submitted REA. NMIW advised the Contracting Officer that the REA would be completed and submitted to SupShip Seattle during the March-April 1988 time frame. Enclosed please find the additional support and documentation for NMIW's Request for Equitable Adjustment on the subject contract that was submitted on 8 December 1986 via reference (e). NMIW resubmits the enclosed documentation to reimburse it for additional costs that were incurred because of the defective Government furnished design drawings which are specifically detailed in the enclosed.

Please note that this proposal is set forth in anticipation of a negotiated settlement. Should that prove impossible, NMIW reserves its right to modify this proposal should it be deemed necessary. We request your prompt attention to this matter.

In order to validate the additional data and calculations to support the previous submittal made by reference (e), NMIW submits the following certification in accordance with Contract Clause H-4(e):



The undersigned, being aware of the provisions of 18 U.S.C. Section 1001, hereby represents and certifies that to the best of his knowledge and belief:

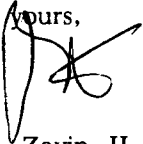
- (1) The contents of the foregoing proposal and its attachments have been thoroughly investigated by responsible company employees and officials for completeness and accuracy as to the fact, and that any judgmental statements and conclusions in the proposal and its attachments are clearly identified as such.
- (2) The proposal, either directly or by specific reference, sets forth information to be furnished pursuant to the "documentation of requests for equitable adjustment" clause of the contract to the full extent that such information is within custody of or available to the Contractor.
- (3) On the basis of the foregoing review, he is satisfied with respect to each item that the adjustment claimed is therefore reasonable and accurately represents the additional costs and/or time incurred or to be incurred by reason of the asserted Government act or omission.

Additionally, in accordance with the Disputes Clause of the subject contract (FAR 52.217-7111) as incorporated by Section I of the subject contract:

I certify that the claim is made in good faith and that the supporting data are accurate and complete to the best of my knowledge and belief; and that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable.

Finally, attached please find the duly executed SF-1411 for this redocumented submittal as required by Contract Provision H-5(d).

Very truly yours,



William H. Zavín, II  
President

## CALCULATION OF REQUESTED ADJUSTMENT

List of defective specification/impacted work items and budget/actual manhours:

USCG Item No.	NMIW Item No.	"As Planned" Budget Hours	Actual Hours Expended Total	OT
233-01	2331	12,978	33,828	5,457.5
	2332		16.5	
235-04	2354	2,403	3,972	963
252-01	2521	120	481.5	56.5
259-01	2591	3,373	4,170.5	492.5
261-01	2611	292	442.5	48.5
503-01	5031	1,364	1,491	87.5
517-01	5171	1,659	2,846	234
517-51	5180	65	283.5	14.5
531-01	5311	5,711	6,844.5	1,599.5
534-57	5347	422	765	
535-01	5351	5,432	11,275	1,340
982-52	9841	968	1,982.5	73
	<b>TOTALS</b>	<b>34,787</b>	<b>68,398.5</b>	<b>10,366.5</b>

▲ between "As Planned" budget and "Actual" hours = 33,611.5

Determination of appropriate overtime to straight time ratio:

Total manhours expended on job	193,336.0			
Total manhours expended in attempt to comply with defective specification	<u>- 68,398.5</u>			
Total manhours expended on unimpacted work	124,937.5			
Total OT manhours expended on job	18,699.0			
Total OT manhours expended in attempt to comply with defective specification	<u>- 10,366.5</u>			
Total OT manhours expended on unimpacted work	8,332.5	OT manhours		
Actual ratio of overtime to straight time hours for <b>unimpacted</b> work	OT 8,332.5	ST 124,937.5	÷	= <u>.067%</u>
Actual ratio of overtime to straight time hours for <b>defective specification</b> work	OT 10,366.5	ST 68,398.5	÷	= <u>.15%</u>

Comparison of "As Planned" vs. "Actual" manhours expended:

<b>"As Planned"</b>			<b>"Actual"</b>		
ST Hours	OT Hours	Total Hours	ST Hours	OT Hours	Total Hours
32,456	2,331	34,787	58,032	10,366.5	68,398.5

"Actual" manhours minus "As Planned" manhours:

58,032	ST Hours "Actual"	10,366.5	OT Hours "Actual"
- 32,456	ST Hours "As Planned"	- 2,331.0	OT Hours "As Planned"
25,576	ST Hours	8,035.5	OT Hours

25,576	ST Hours @ 35.86	917,155.36
8,036	OT Hours @ 51.84	416,586.24
33,612	Total Hours	
	Labor	1,333,741.60
	Material	30,188.00
	Subcontractor	.00
	Fee Bearing Cost	1,363,930.00
	Port of Portland (10%)	136,393.00
	Subtotal	1,500,323.00
	Fee (10%)	150,032.00
	FCOM (1.00 x manhours)	33,612.00
	Subtotal	1,683,967.00
	REA Preparation Cost	260,894.00
	Total	1,944,861.00



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

December 1, 1988

Captain J. Schultz, USN  
Commander  
Military Sealift Command, Pacific  
Building 310-5  
Naval Supply Center  
Oakland, CA 94625-5010

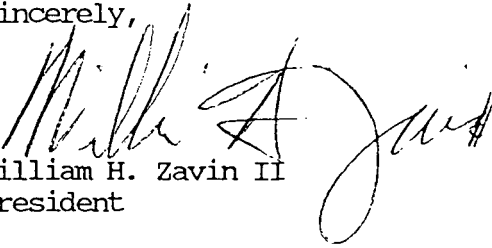
Dear Commodore:

I must express my concern that the finalization of MERCY and KAWISHIWI contracts appear to be no further along than when I raised the issue with you in early September.

The attached status memorandum from our Contracts Director, John Jozwick, indicates little understanding of the sense of urgency needed by MSCPAC in resolving these issues.

I would greatly appreciate your support in bringing these outstanding issues to a rapid close.

Sincerely,


  
William H. Zavín II  
President

WHZ/ba

Enclosure

MEMORANDUM

November 30, 1988

TO: Bill Zavin  
FROM: John Jozwick   
RE: Outstanding MSCPAC Issues

---

KAWISHIWI

- \* MSCPAC is withholding \$263,373 in retention since the ship departed Northwest Marine Iron Works on August 17, 1988.
- \* This withholding is apparently for MSCPAC's assessment of 8 days of liquidated damages at \$30,600 per day.
- \* After several attempts to negotiate a settlement of outstanding issues, NMIW finally submitted several REA's to resolve the outstanding issues and the liquidated damages.
- \* The following REA's have been submitted:

<u>Serial</u>	<u>Date</u>	<u>Issue</u>
3355.36	10/6/88	Late contract award.
3355.38	10/19/88	Drydock issues of condenser tube cleaning and shaft/propeller work.
3355.40	10/19/88	Aux. condenser, delays in testing, delays in delivery.
3355.48	11/15/88	Propeller shaft repair.

- \* The amounts requested are as follows:

<u>Issue</u>	<u>Amount</u>
Late contract	\$452,539.
Drydock issues	\$185,061. and 4 days excusable delay
Testing delays	\$178,057. and 5 days excusable delay
Propeller shaft	\$ 96,211.
	-----
	\$911,868. and 9 days excusable delay

Outstanding MSCPAC Issues  
KAWISHIWI  
Page two

- \* Discussions with MSCPAC's A. Lawrence indicated the following actions had taken place at MSCPAC.

<u>REA</u>	<u>Action</u>
Late contract award	Sent to MSCPAC legal on 10/21/88
Drydock issues	Sent for TAR on 11/7/88
Testing delays	Sent for TAR on 11/7/88
Propeller shaft	Sent for TAR on 11/23/88

- \* By NMIW letter serial 3355.49 of 11/15/88, NMIW requested when responses could be obtained on the REA's.

- \* In response, NMIW received MSCPAC letter P-7a dated 11/21/88 which addressed the REA for Late Contract Award. MSCPAC stated that the REA is "unsubstantiated and not subject to verification". NMIW is responding with additional supporting data although it disagrees with MSCPAC's analysis of the REA. NMIW will provide MSCPAC with a further analysis of planned/actual manhour expenditures, and manhour curves of other projects which show that NMIW should have earned the manhours which it has requested in the REA. NMIW believes it has substantiated the cause of the inefficiency and believes the analysis and proven historical data substantiates the effect.

- \* By telephone conversation with the Contracting Officer on 11/28/88, the following responses are anticipated on the remaining REA's:

<u>Issue</u>	<u>Response</u>
Drydock } Testing } Shafting }	TAR to be completed 12/23/88 with MSCPAC ready to respond/negotiate by mid-January, 1989.

MSCPAC Contracting Officer will confirm this in a letter.\*

See MSCPAC letter P-10-1 dated  
30 Nov 88 attached

## Outstanding MSCPAC Issues

Page three

### MERCY

- \* MSCPAC is withholding approximately \$74k as a "credit" for incomplete drawings which were caused when the Government failed to provide the drawings to NMIW for updating during the contract period.
- \* On Tuesday, 10/18/88, NMIW went to MSCPAC to discuss the drawing package. MSCPAC and NMIW agreed that NMIW had done everything it could with the drawings it had during the project. MSCPAC stated, however, that it still wanted drawings updated instead of negotiating a credit. No price was agreed to on the credit although NMIW estimates a value substantially lower than \$74k. NMIW and MSCPAC agreed that if MSCPAC would provide the ship's drawings, NMIW would update them and MSCPAC would release the \$74k.
- \* On 10/27/88, MSCPAC, by letter P-10-1, proposed what updates it desired.
- \* On 11/1/88, NMIW responded by letter 3275.65 by agreeing to update the drawings and damage control plates, and clarifying specific points concerning the updates.
- \* On 11/18/88, MSCPAC, by letter P-10-1, stated that it was obtaining the D.C. plates and drawings that required updating. MSCPAC stated it anticipated receipt on 11/21/88 and immediate forwarding to NMIW.
- \* On 11/28/88 MSCPAC Contracting Officer stated in a phone conversation that it had not yet received the plates or drawings.
- \* As of 11/30/88, NMIW does not know when it will receive the plates and drawings. NMIW engineering anticipates about 6 calendar weeks to complete the updates once the material from MSCPAC is received.
- \* Another MERCY topic - Spare Parts.
- \* The requirement to provide spare parts has been a disputed item from delivery. (See MSCPAC letter 12 May '88, NMIW letter 17 Aug '88, NMIW letter 6 Sept '88, MSCPAC letter 23 Sept '88.)
- \* MSCPAC letter P-10-1 of 9/23/88 summarized a negotiated agreement between MSCPAC and NMIW, that MSCPAC would select \$5k worth of spares from the \$30k withheld retention. "Upon receipt of the spares", MSCPAC would release the retention. NMIW attempted to



Outstanding MSCPAC Issues  
MERCY (continued)  
Page four

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## DEPARTMENT OF THE NAVY

MILITARY SEALIFT COMMAND, PACIFIC  
OAKLAND, CALIFORNIA 94622-5010

IN REPLY REFER TO:

4330  
P-10-1  
30 Nov 88

Northwest Marine Iron Works, Inc.  
Attn: Mr. John T. Jozwick  
5555 N. Channel Avenue  
Portland, OR 97217

Subj: USNS KAWISHIWI CONTRACT NO. N62383-88-C-0001, REQUEST FOR EQUITABLE  
ADJUSTMENT IN RESPONSE TO NORTHWEST MARINE IRON WORKS LETTERS (2)  
SERIAL NOS. 3355-38 AND 3355-40

Ref: (a) NWMIW ltr Ser 3355.49 of 15 Nov 88  
(b) MSCPAC ltr of 21 Nov 88

1. Subject REAs were received at MSCPAC on 26 October 1988. These REAs were submitted to Legal Department for review and then forwarded to our technical personnel on 07 November for development of Technical Analysis Reports (TARs) thereto.
2. Our technical personnel anticipate completion of the TARs on or before 23 December 1988. It will entail approximately 30 days after completion of the TARs for our Contracting Office to develop a pre-negotiation position and obtain Headquarters approval to enter into negotiations pertaining to these REAs.
3. Hopefully this tentative schedule of events will satisfy your reference (a) request for status of your REAs.
4. Reference (a) also requested status of your pre-drydocking REA (NWMIW letter Serial No. 3355.36). This REA was addressed by MSCPAC via reference (b) wherein we informed you that the threshold issue of entitlement was significantly impacted by your failure to provide sufficient data to support any quantum determination. We, therefore, requested you either resubmit the REA with supporting documentation showing the actual impact of a specified event on your ability to work, or request a Contracting Officers' Final Decision.

Sincerely,

A handwritten signature in cursive script, reading "A. T. Lawrence", is written over the typed name.

A. T. LAWRENCE  
Contracting Officer

MEMORANDUM

November 30, 1988

TO: Bill Zavin  
FROM: John Jozwick  
RE: Outstanding MSCPAC Issues

-----

KAWISHIWI

- \* MSCPAC is withholding \$263,373 in retention since the ship departed Northwest Marine Iron Works on August 17, 1988.
- \* This withholding is apparently for MSCPAC's assessment of 8 days of liquidated damages at \$30,600 per day.
- \* After several attempts to negotiate a settlement of outstanding issues, NMIW finally submitted several REA's to resolve the outstanding issues and the liquidated damages.
- \* The following REA's have been submitted:

<u>Serial</u>	<u>Date</u>	<u>Issue</u>
3355.36	10/6/88	Late contract award.
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- \* The amounts requested are as follows:

<u>Issue</u>	<u>Amount</u>
Late contract	\$452,539.
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Outstanding MSCPAC Issues

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Page two

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- \* By telephone conversation with the Contracting Officer on 11/28/88, the following responses are anticipated on the remaining REA's:

<u>Issue</u>	<u>Response</u>
Drydock } Testing } Shafting }	TAR to be completed 12/23/88 with MSCPAC ready to respond/negotiate by mid-January, 1989.

MSCPAC Contracting Officer will confirm this in a letter.

Outstanding MSCPAC Issues  
Page three

MERCY

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Outstanding MSCPAC Issues  
MERCY (continued)  
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FOR YOUR EYES ONLY - PERSONAL - NOT FOR PUBLICATION

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The following are some of my points and comments on these remaining REA's.

1. Was the assessment of liquidated damages (L.D.'s) really necessary on this ship? What did they compensate MSCPAC for? Is the assessment being used as a "penalty" or as negotiating leverage? Isn't the determination to assess L.D.'s discretionary with the Contracting Officer/Command? If so, why can't MSCPAC waive them on this contract? Additionally, but more importantly, the REA on Testing Delays shows that MSCPAC stated it would not go to sea trial on a Saturday and then by memo requested NMIW to provide pier space and services from when the ship returned from sea trial until delivery on Wednesday, 8/17/88. Looking at these time frames specifically, NMIW wanted to go to trials on Saturday, 8/13/88. The ship/MSCPAC refused, saying trials would be Monday, 8/15/88. The memo attached to the REA then requested that NMIW provide pier space because the ship did not want to leave until Wednesday, 8/17/88. This equates to several days of the L.D.'s that MSCPAC is assessing. Even if the Government could argue that the ship wasn't ready for trials for Saturday, 8/13/88, the request to stay at NMIW from Monday, 8/15/88 (completion of trials until Wednesday, 8/17/88 (departure) should not be assessed as L.D.'s against NMIW. These 3 days equate to \$91,800. alone of L.D.'s. This money should be released.
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COMMENTS - FOR YOUR EYES ONLY - NOT FOR PUBLICATION  
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## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

#### U. S. NAVY

DULUTH	(5/86)	\$	5,864,969		
CUSHING	(7/86)		1,052,403	(1)	
STORIS	(9/86)		2,197,276	(2)	
FOSTER	(7/88)		1,339,490	→	\$ 4,163,050 (4)
OKINAWA	( - )		2,212,657	(3)	
			<hr/>		
		\$	12,666,795	→	\$ 15,490,355

#### MILITARY SEALIFT COMMAND

MERCY	(4/88)	\$	104,000		
KAWISHIWI	(8/88)		1,175,241		
HIGGINS	(10/88)		203,336		
			<hr/>		
		\$	1,482,577		

GRAND TOTAL(S)	\$	14,149,372	→	\$	16,972,932
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#### NOTES:

- (1) Settled, modification not received.
- (2) Includes \$207,415 settlement, modification not received.
- (3) Includes \$118,972 settlement, modification not received.
- (4) Costs documented on Forms 1411.

# NORTHWEST MARINE IRON WORKS

## OUTSTANDING GOVERNMENT ISSUES

### U.S. NAVY

	REA Value	Gov't Position	△	Billable
USS DULUTH (LPD-6) (Delivered 5/86)	\$ 5,864,969	\$ 172,358	\$ 5,692,611	\$ --
USS CUSHING (DD-985) (Delivered (7/86)	\$ 1,052,403	(Awaiting Contract Modification)		\$ 1,052,403
USCG STORIS (WMEC-38) (Delivered 9/86)	\$ 1,944,861	(To Be Submitted Week of 12/5)		\$ --
	207,415	(Awaiting Contract Modification)		207,415
	45,000	Price Proposals Yet To Be Negotiated		--
	<u>\$ 2,197,276</u>			<u>\$ 207,415</u>

	Max Mod Value	1411 Value
USS PAUL F. FOSTER (DD-964) (Delivered 7/88)		
a) VLS Kits	\$ 489,390	\$ 736,045
b) Sonar Kit	628,394	576,857
c) LAMPS Kit	370,351	872,928
d) Contract Extension	1,939,846	4,092,577
e) #2 Generator	<u>203,672</u>	<u>176,806</u>
	\$ 3,631,653	\$ 6,455,213
Unilateral Price Determination SupShip Seattle	<u>- 2,292,163</u>	<u>- 2,292,163</u>
	\$ 1,339,490	\$ 4,163,050



## NORTHWEST MARINE IRON WORKS

### OUTSTANDING GOVERNMENT ISSUES

U.S. NAVY (Continued)

---

USS OKINAWA (LPH-3)  
(6/88 - 3/89)

**REA Value**

a) Defueling	\$ 1,258,685	* Submitted 09/19/88
b) Asbestos	118,972	* Settled 12/1/88 at asked for price
c) Late Move-Off	300,000	* Not yet submitted; EDS 12/23/88
d) Freeboard	<u>535,000</u>	* To be submitted week of 12/5/88
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# NORTHWEST MARINE IRON WORKS

## OUTSTANDING GOVERNMENT ISSUES

### MILITARY SEALIFT COMMAND

---

	Value	Gov't Position	△	Billable
USNS MERCY (T-AH 19) (Delivered 4/88)	\$ 74,000	(Withheld For Drawings)		
	<u>30,000</u>	(Withheld For Spare Parts)		
	\$ 104,000			
 USNS KAWISHIWI (T-AO 146) (Delivered 8/88)	 \$ 452,539	 (REA/Late Contract Award)		
	185,061	(REA/Drydock Issues)		
	178,057	(REA/Testing Delays)		
	96,211	(REA/Propeller Shaft)		
	<u>263,373</u>	Retention Withheld		
	\$ 1,175,241			
 USNS HIGGINS (T-AO 190) (Delivered 10/88)	 \$ 99,061	 Retention Withheld		
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 TOTAL	 \$ 1,482,577			

## NORTHWEST MARINE IRON WORKS

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R 072344Z JUL 88 ZYB

FM COMNAVSURFPAC SAN DIEGO CA (COMMANDER NAVAL SURFACE FORCE PACIFIC)

TO RHWZMQQ/USS PAUL F FOSTER

RHWHHA/SUPSHIP SEATTLE WA

RUCLRFA/NORTHWEST MARINE IRON WORKS

5555 N CHANNEL AVENUE BLDG 2

PORTLAND OR 97217

INFO RUENAAAA/CNO WASHINGTON DC (CHIEF OF NAVAL OPERATIONS)

RHHMBRA/CINCPACFLT PEARL HARBOR HI (COMMANDER IN CHIEF U.S. PACIFIC FLEET)

RULSSAA/COMNAVSEASYS COM WASHINGTON DC (COMMANDER NAVAL SEA SYSTEMS COMMAND)

RUWDXAA/COMDESRON THREE THREE (COMMANDER DESTROYER SQUADRON 33)

ACCT NA-CNRF

UNCLAS //N04710//

SUBJ: ROH COMPLETION

A. SUPSHIP SEATTLE WA 051658Z JUL 88 NOTAL

1. NAVSEA for PMS 314 and SEA 07. OPNAV for OP321.

2. Ref A reports completion of USS PAUL F. FOSTER'S FY 87 regular overhaul at Northwest Marine Iron Works Portland, Oregon at originally scheduled CNO completion date 1 July 1988.

3. As the first such on-time redelivery of a PACFLT SPRUANCE Class ship from the massive Vertical Launch System (VLS)/SQQ-89/LAMPS MK III ShipAlt package special recognition is in order.

4. For PAUL F. FOSTER: Your in-depth management and detailed involvement in the successful accomplishment of the complex out-of-homeport overhaul was refreshing to observe. You have optimized my guidance in taking responsibility for your availability. PAUL F. FOSTER'S LOE performance was superlative as have been all evolutions during this past demanding year. You have been innovative and tenacious in accomplishing training, upgrading your supply support and in maintaining shipboard cleanliness and safety.

5. For SupShip Seattle: Your on-site team has set new standards for project management in the professional administration of a dynamic, interdependent overhaul package. The maintaining of PAUL F. FOSTER'S contract current on an almost daily basis has protected the rights of the Government and the contractor while concurrently satisfying all customers.

6. For NMIW: We know who ultimately "turns the wrenches" to get out the ship. By my personal observation, NMIW has come the farthest of any West Coast private sector contractor in taking aboard my Navy ship repair cost-saving initiatives while continuing to provide responsive quality workmanship. As the Rose Festival demonstrates to my visiting ships each year, Portland is a super host city. Keep up the good work.

7. VAdm G. W. Davis Jr.







DEPARTMENT OF THE NAVY

MILITARY SEALIFT COMMAND, PACIFIC  
OAKLAND, CALIFORNIA 94625-5010

IN REPLY REFER TO:

16 August 1988

Mr. William H. Zavín  
President  
Northwest Marine Iron Works  
555 North Channel  
Portland, Oregon 97217

Dear Mr. Zavín,

As I conclude my tour as Commander, Military Sealift Command, Pacific I would like to take this opportunity to express my appreciation to you and your fine company for the uniformly outstanding repair work you have provided during overhauls of seven MSCPAC ships on my watch. The performance of your ship repair team, including senior management, shipboard supervisors, and skilled labor has left nothing to be desired. Their responsiveness, and their willingness to work hand-in-hand with my on-site engineers, contracting officers and ship's force personnel have resulted in highly productive and cost effective repair periods. Through your efforts, the material readiness of my ships has been significantly enhanced.

I would like to wish you and your company every success in your future endeavors.

Sincerely yours,

A handwritten signature in black ink, appearing to read "W. T. Dannheim", is written over a horizontal line.

WILLIAM T. DANNHEIM

NWMAR134267



410—  
**DEPARTMENT OF THE NAVY**  
SUPERVISOR OF SHIPBUILDING, CONVERSION, AND REPAIR, USN  
SEATTLE, WASHINGTON 98115-5003

IN REPLY REFER TO:  
NHBS-8197/DD964  
Ser 401-4512  
08 Nov 88

From: Supervisor of Shipbuilding, Conversion, and Repair, USN, Seattle  
To: Commander, Naval Sea Systems Command (PMS 314)

Subj: USS PAUL F. FOSTER (DD-964) CONTRACT NO0024-85-H-8197 JOB ORDER EH29  
PERFORMANCE FEE EVALUATION BOARD REPORT; FIFTH PERIOD

Ref: (a) Clause H-20 Determination of Performance Fee

1. The subject Performance Fee Evaluation Board (PFEB) convened on 03 November 1988 and evaluated the contractor's performance on subject contract for the fifth period, 01 May 1988 through 29 September 1988.

2. The PFEB recommends a numerical rating of 98.8% and an adjective rating of Excellent, based on three category scores weighted in accordance with paragraph (f), reference (a) as follows:

a. Schedule Performance: Numerical rating of 100%

(1) Areas of Commendable Performance:

(a) The contractor met all planned milestones for this period with the most significant being LOE, Sea Trials, and Completion of ROH.

(b) The contractor has had an outside consultant review his scheduling and progressing system and has begun implementation of the recommendations, albeit too late for this overhaul. Nevertheless, this is a positive step forward for the contractor.

(c) The contractor has been effective in integrating his work with that of ship's force to meet milestones during this period.

(d) The contractor's effort in assisting ship's force to prepare for sea trials was outstanding, considering manning was low at this point in the ROH.

(e) The contractor's responses to sea trial related problems were commendable.

(f) The contractor was very responsive to last minute VLS problems/discrepancies upon receipt of contract changes.

b. Technical Performance: Numerical rating of 98%

(1) Areas of Commendable Performance:

(a) The contractor demonstrated excellent effectiveness in fulfilling the in-process, as well as at-completion, quality requirements of the contract. Corrective action requests were responded to in a timely manner.

Subj: USS PAUL F. FOSTER (DD-964) CONTRACT N00024-85-H-8197 JOB ORDER EH29  
PERFORMANCE FEE BOARD EVALUATION REPORT; FIFTH PERIOD

(b) The contractor's performance in the area of completing aviation facility deficiencies, both contractor and government, was commendable, enabling certification of the helicopter flight deck prior to sea trials.

(c) The contractor's effectiveness of repairs and alterations was demonstrated by the way the ship was able to complete its post repair testing and exercises within the originally scheduled time frames. There were no warranty items identified which required more than 24 hours to correct.

(d) The ASW systems major Ship Alteration installations were tested with excellent results during sea trials.

(e) The contractor's correction of identified warranty items was excellent.

(f) The contractor has responded in a positive manner to specific requests on safety, preservation, and cleanliness problems. He has continued to attempt to maintain the ship in a clean state to meet the terms of the contract.

(g) The Propulsion Examining Board graded the USS PAUL F. FOSTER one of the highest they had ever seen. While this is not all due to contractor efforts, it certainly could not have been done without the superlative effort of NMW.

(h) The contractor's quality assurance department has done an outstanding job of observing and reporting discrepancies for correction in on-going work in the weapons area of this overhaul.

(i) The contractor's warehouse personnel remained extremely cooperative. Identification of GFM was accurate and timely. These personnel went out of their way to see that all last minute emergent material was onboard USS PAUL F. FOSTER prior to sail away.

(j) The warehouse was orderly during the entire contract period. Material was always easily located.

c. Management Performance: Numerical rating of 98%

(1) Areas of Commendable Performance:

(a) The contractor has provided pricing data for changes under \$100,000, when requested, in a timely manner and has normally been willing to negotiate fair and reasonable prices.

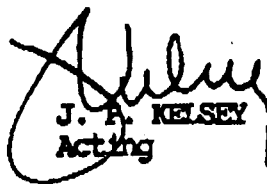
(b) Rarely has anyone associated with this overhaul seen a worker not performing.

Subj: USS PAUL F. FOSTER (DD-964) CONTRACT N00024-85-H-8197 JOB ORDER EH29  
PERFORMANCE FEE BOARD EVALUATION REPORT; FIFTH PERIOD

(c) The contractor's management organization was very effective in preventing schedule slippage by shifting manpower to resolve emerging problems. This was especially apparent in the LOE, Aviation Certification inspection, and Sea Trial discrepancy correction areas.

(d) The USS PAUL F. FOSTER was completed on time with excellent quality at a reasonable price.

3. This is the final performance fee board report for an exceptionally successful overhaul.

  
J. A. KELSEY  
Acting

Copy to:  
COMDESRON THREE THREE  
COMNAVSURFPAC N4



# NORTHWEST MARINE IRON WORKS

MAILING  
ADDRESS:

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PORTLAND, OREGON 97217

PHONE: (503) 285-7557

TWX: 910-464-6107 NORMARINE PTL

*Handwritten:*  
Zachary  
Coleman  
Miller  
NMIW

December 9, 1988

Supervisor of Shipbuilding  
Conversion and Repair, USN  
Seattle, WA 98115

Attention: LCDR. C. Tucker (SC) USN  
Contracting Officer

Subject: USS DULUTH  
Contract No. N00024-85-C-8506;  
Request for Equitable Adjustment Negotiations

Reference: (a) NMIW Letter Dated December 8, 1988

Gentlemen:

By reference (a), NMIW discussed the November 28, 1988 negotiations of the subject Request for Equitable Adjustment (REA) on the DULUTH contract. Within reference (a), NMIW stated that it was reviewing several of the issues as presented by the on-site Contracting Officer. The following will provide an update to several of the issues that NMIW has been able to review at the present time. As provided in reference (a), NMIW will state the on-site Contracting Officer's position and NMIW's response now that it has had time to review the on-site Contracting Officer's statements.

## EMERGENCY STERN GATE RIGGING

As stated in reference (a), the Government's position on this issue was to deny entitlement. The on-site Contracting Officer's position was that the additional effort described by the REA was covered by the basic specification, a standard interference item, or settled during the project.

In reviewing the on-site Contracting Officer's position, NMIW disagrees with the Government's position. The REA identified eight specific issues wherein NMIW described why it believed each issue was beyond the scope of the base item, the interference item, or any change order associated with this item. Further, one of the issues described additional effort that was caused when ship's force personnel spray painted a compartment that NMIW had just stripped of paint which caused NMIW to restrip and reprepare the compartment for its anticipated welding work. This issue was not addressed by the on-site Contracting Officer. Additionally, another issue discussed the impact from the ship's force personnel's failure to provide fire watches. This issue was not addressed by the on-site Contracting Officer.

LCDR C. Tucker  
USS DULUTH  
December 9, 1988  
Page two

NMIW has reviewed the on-site Contracting Officer's statement and has researched the specification, standard items, and change orders issued for this work item. NMIW still believes that the additional effort described in the REA was beyond the scope of the contract. NMIW has also researched the comments that these issues were settled during the project. NMIW finds no evidence to support this assertion. As a result, NMIW believes that it is still entitled to the hours presented in the REA for the eight issues discussed concerning the Emergency Stern Gate work item.

#### STRUCTURAL REPAIRS BELOW MAIN DECK

As stated in reference (a), the on-site Contracting Officer offered 709 hours for this issue. In evaluating this offer, NMIW is uncertain as to how this value was calculated. The REA for the Structural Repairs provided a calculation for this effort as 1182 straight time hours and 132 overtime hours for this effort. The 709 hour offer by the on-site Contracting Officer does not distinguish between the straight time and overtime work or the reason for disallowing the remaining 605 hours. As a result, NMIW requests the on-site Contracting Officer to define the 709 (straight time or overtime) hours and the reasons for disallowing the additional 605 hours NMIW expended on this item.

#### LIVING BARGE IX-502

As stated in reference (a), the on-site Contracting Officer did not recognize entitlement for this issue as "NMIW had an opportunity to shipcheck the IX-502 barge during the bid period". NMIW has reviewed the solicitation documents and finds no provision for shipchecking the subject barge.

NMIW questions this position by the on-site Contracting Officer when the REA describes the recognition by the Government that the condition of the barge was unanticipated, that NMIW was entitled to be compensated for additional work to prepare the barge for a crew move off, and that NMIW was compensated by several change orders to accomplish specific improvements and repairs to the barge. The REA describes these facts, and the additional effort that was required to prepare the barge that was not compensated for. NMIW continues to believe that it is entitled to be compensated for this additional work effort.

LCDR. C. Tucker  
USS DULUTH  
December 9, 1988  
Page three

PROPULSION SHAFTING REA

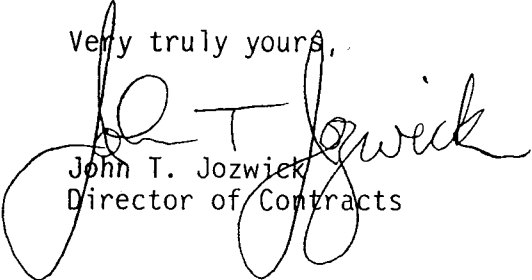
By reference (a), the on-site Contracting Officer denied entitlement on this issue stating that the issue was covered by change orders to the basic specification item. While NMIW believes that the effort it expended far exceeded the work effort that was anticipated or discussed during the negotiation of changes on this issue, NMIW may consider not pursuing this item during the negotiation process.

CONCLUSION

By reference (a), NMIW stated that it would respond to several of the issues. The comments provided above discuss NMIW's position on the four individual REA's that were included in the overall submittal. NMIW is continuing to evaluate the USCGC STORIS issue, and the offers made by the on-site Contracting Officer on Ship's Force Impact and Defective Specifications. NMIW will continue to review these issues and provide a response when our review is completed.

If you have any questions regarding the above, do not hesitate to contact the undersigned.

Very truly yours,



John T. Jozwick  
Director of Contracts



## NORTHWEST MARINE IRON WORKS

*Handwritten:* Naval  
Cateran  
Miller  
NLS

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December 9, 1988

Supervisor of Shipbuilding  
Conversion and Repair, USN  
Seattle, WA 98115

Attention: LCDR. C. Tucker (SC) USN  
Contracting Officer

Subject: USS DULUTH  
Contract No. N00024-85-C-8506;  
Request for Equitable Adjustment Negotiations

Reference: (a) NMIW Letter Dated December 8, 1988

Gentlemen:

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### EMERGENCY STERN GATE RIGGING

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LCDR C. Tucker  
USS DULUTH  
December 9, 1988  
Page two

NMIW has reviewed the on-site Contracting Officer's statement and has researched the specification, standard items, and change orders issued for this work item. NMIW still believes that the additional effort described in the REA was beyond the scope of the contract. NMIW has also researched the comments that these issues were settled during the project. NMIW finds no evidence to support this assertion. As a result, NMIW believes that it is still entitled to the hours presented in the REA for the eight issues discussed concerning the Emergency Stern Gate work item.

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As stated in reference (a), the on-site Contracting Officer did not recognize entitlement for this issue as "NMIW had an opportunity to shipcheck the IX-502 barge during the bid period". NMIW has reviewed the solicitation documents and finds no provision for shipchecking the subject barge.

NMIW questions this position by the on-site Contracting Officer when the REA describes the recognition by the Government that the condition of the barge was unanticipated, that NMIW was entitled to be compensated for additional work to prepare the barge for a crew move off, and that NMIW was compensated by several change orders to accomplish specific improvements and repairs to the barge. The REA describes these facts, and the additional effort that was required to prepare the barge that was not compensated for. NMIW continues to believe that it is entitled to be compensated for this additional work effort.

LCDR. C. Tucker  
USS DULUTH  
December 9, 1988  
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PROPULSION SHAFTING REA

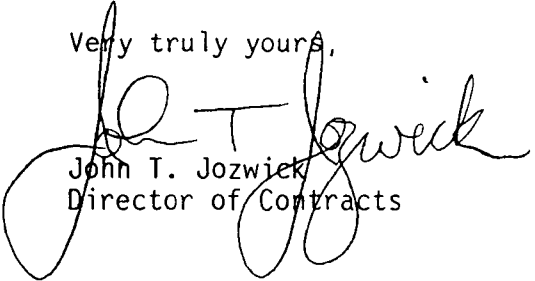
By reference (a), the on-site Contracting Officer denied entitlement on this issue stating that the issue was covered by change orders to the basic specification item. While NMIW believes that the effort it expended far exceeded the work effort that was anticipated or discussed during the negotiation of changes on this issue, NMIW may consider not pursuing this item during the negotiation process.

CONCLUSION

By reference (a), NMIW stated that it would respond to several of the issues. The comments provided above discuss NMIW's position on the four individual REA's that were included in the overall submittal. NMIW is continuing to evaluate the USCGC STORIS issue, and the offers made by the on-site Contracting Officer on Ship's Force Impact and Defective Specifications. NMIW will continue to review these issues and provide a response when our review is completed.

If you have any questions regarding the above, do not hesitate to contact the undersigned.

Very truly yours,

  
John T. Jozwick  
Director of Contracts



## NORTHWEST MARINE IRON WORKS

December 8, 1988

Supervisor of Shipbuilding  
Conversion and Repair, USN  
Seattle, WA 98115

Attention: LCDR. C. Tucker, (SC) USN  
Contracting Officer

Subject: USS DULUTH  
Contract Number N00024-85-C-8506;  
Request for Equitable Adjustment Negotiations

References: (a) SupShip Letter Serial 4113-4360 dated 5 October 1988  
(b) NMIW Letter dated 11 October 1988  
(c) SupShip Letter Serial 4113-4370 dated 17 October 1988  
(d) NMIW Letter dated 4 November 1988  
(e) SupShip Letter Serial 400-4938 dated 17 November 1988

Gentlemen:

By reference (a), the on-site Contracting Officer confirmed that negotiations of the subject Request for Equitable Adjustment (REA) had commenced on 9 September 1988. The on-site Contracting Officer also stated that the Navy had responded to all elements of the REA.

Reference (b) confirmed that negotiation of the DULUTH REA had commenced. However, NMIW disagreed with the on-site Contracting Officer that the Navy had responded to all elements of the REA.

By reference (c), the on-site Contracting Officer once again stated that the Navy had presented its position for each element of the REA.

In reference (d), NMIW discussed the DULUTH negotiations, and a visit by Captain Harshbarger. Reference (d) provided NMIW's prospective on the DULUTH negotiations and the rationale for its comments contained in the point paper that was attached to the letter. In reference (d), NMIW referred to reference (c) stating that the Government had not responded to the detailed rationale provided for each area of the REA that NMIW believed it was entitled to compensation. Reference (d) continued to state, "while NMIW has provided a justification for each element of its REA, the Supervisor has yet to explain the difference of position in its assessment of entitlement or quantum." As a result, NMIW enclosed a prepared checklist to be utilized by NMIW's negotiator in order to better define areas of entitlement and quantum.

On November 28, 1988, the on-site Contracting Officer and NMIW continued the negotiation of the subject REA. NMIW's negotiator utilized the checklist to ascertain the Government's position on each issue contained within the REA. The following comments summarize the Government's position on each issue and NMIW's response.

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LCDR. Tucker  
USS DULUTH  
December 8, 1988  
Page two

## RESPONSES TO DULUTH NEGOTIATIONS

### MANDAY RESERVATION

During the negotiations of November 28, 1988, the on-site Contracting Officer stated that the Government was denying entitlement on this issue because NMIW management agreed to allow SupShip to transfer reserve mandays between the "D and F" and "K" ShipAlts for supplemental and emergent work. As a result of the entitlement denial, no quantum was allowed for this issue.

In response, NMIW provides the following comments.

While the on-site Contracting Officer's position was that NMIW agreed to allow the transfer of reserve mandays between the four categories, he failed to address the issue raised in the REA concerning the manday reservation. Specifically, while NMIW allowed the transfer of reserve mandays between the ShipAlt packages, this was done so after the Government had interpreted and defined the meaning of these packages and the definition and interpretation of supplemental and emergent work categories. Only after the Government had defined and stated to NMIW these respective contract interpretations, did NMIW agree to the transfer. Thus, the on-site Contracting Officer's position on entitlement does not address the issue raised in the REA - an erroneous contract interpretation by the Government.

Pages 3, 4, and 5 of the REA Statement of Facts discuss the supplemental/emergent work clause contained in the DULUTH contract. As stated on pages 5 thru 14, the Government defined the meaning of this contract clause. Pages 12 thru 14 specifically identified the sequence of events that led to the Government's redefinition of the contract provision.

In essence, the Contracting Officer, SupShip Seattle, and NAVSEA had redefined the definition of supplemental work and emergent work from that contained in the contract provision to one of "new work" and "emergent work", respectively. NMIW protested the definitions imposed by the Government as the REA discusses. It wasn't until after the Government's interpretation and redefinition of the clause that there was a discussion concerning the transfer of hours between the ShipAlt packages. However, as addressed in the Request for Equitable Adjustment, the redefinition and interpretation by the Contracting Officer, SupShip and the Government was an erroneous interpretation of the contract provision and was not addressed during the November 28, 1988 negotiations.

In the Justification for Payment section of the REA, NMIW has presented in pages 2 thru 9 its justification that the redefinition, but more importantly, the erroneous interpretation of the contract provision does not bar NMIW from recovering the costs associated with this issue.

LCDR. Tucker  
USS DULUTH  
December 8, 1988  
Page three

The on-site Contracting Officer has failed to address the issue raised by the REA or to provide a response to the justification for entitlement that NMIW has provided in the REA. As a result, NMIW believes it is entitled to be compensated for these costs.

#### IMPACT COSTS RESULTING FROM ADDITIONAL HULL WORK AND DRYDOCK EXTENSION

During the November 28, 1988 negotiations, the on-site Contracting Officer stated that his position was to deny entitlement as "all impact costs should have been included in the max-mod". Additionally, the on-site Contracting Officer stated that it was the Government's opinion that the extension actually aided rather than hindered NMIW's performance on the contract and thus any issue of delay, disruption, inefficiency or displacement if linked to the additional underwater hull work was denied in entitlement.

Once again, the on-site Contracting Officer has denied entitlement without addressing the specific points raised in the REA. While the on-site Contracting Officer stated that all impact costs should have been included in the max-mod, the REA described in detail, with supporting documentation, the fact that it was the Government who refused to allow NMIW to include these costs in the negotiation of changes. As stated on page 30 of the REA Statement of Facts, the project records recorded that :

Prices are to be negotiated on the basis of work scope only. D & D will be entertained only if they can be qualified to Sup/Ship i.e., assumption of possible D & D will not be accepted. [Emphasis added.]

Additionally:

Both Dan [Enz] and Joe [Brown] [SupShip Seattle] stated they only want to negotiate on the "work scope only". Ancillary delays/disruptions unless absolutely quantified will not be subject of any nego as far as they are concerned. Dan went further saying this is true of any item we feel we've been cheated on or any change orders. I said that every change has an effect upon the specified work. Dan said again that only work scope shall be addressed in negotiations. [Emphasis added.]

Thus, the on-site Contracting Officer's statement that all impact costs should have been included in the max-mod fails to address the issue raised by the REA. The issue is the Government's refusal to include these costs in the negotiation of change orders. Further, not only did the Government refuse to include these costs in the negotiation of change orders, they were also well aware that the price of each change was for the direct scope of work only. Pages 20 thru 50 of the Statement of Facts, detailed the chronology and events that occurred during the negotiation of the additional underwater hull work and drydock extension.

LCDR. Tucker  
USS DULUTH  
December 8, 1988  
Page four

In addition to the events that occurred regarding this issue, NMIW has provided a detailed justification as to why NMIW is not barred from recovering these costs. Pages 9 thru 47 of the REA Justification for Payment provides an in-depth analysis of why NMIW is entitled to recover those costs that the Government refused to include in the negotiation of change orders. Thus, while the Government's denial of entitlement was based on whether impact costs should have been included in the max-mod, the on-site Contracting Officer has not addressed the issue raised in the REA nor has he provided any justification for the Government's position in response to NMIW's analysis and justification of this issue. NMIW believes that it is entitled to recover these costs.

#### SHIP'S FORCE IMPACTS AND DEFECTIVE SPECIFICATIONS

During the November 28, 1988 negotiations regarding these two issues, the Contracting Officer has recognized entitlement and proposed an offer on each issue. The on-site Contracting Officer, however, was not specific about where the basis of his offer was found or how it was determined. Thus, NMIW is evaluating the offer made by the on-site Contracting Officer in attempting to determine the basis of this offer.

#### USCGC STORIS

The Government's position on this issue was to deny entitlement in total. NMIW's understanding of this denial is based on the on-site Contracting Officer's statements that in the Government's opinion, the STORIS delay to dry-docking were: NMIW made; that if there was Government responsibility, it is a concurrent delay; and that early severe cold weather impacted the DULUTH's undocking which, in turn, delayed STORIS docking which is an act of God and not compensable as Government liability.

In response, NMIW is evaluating the Contracting Officer's statements and will respond when our review is completed.

#### EMERGENCY STERN GATE RIGGING

The Government's position on this issue was to deny entitlement in total. The Government's position was that the additional effort asserted in the REA was covered by the basic specification item or the standard item interferences provision. The on-site Contracting Officer also stated that all issues regarding the emergency stern gate were settled during the project but could not identify who from NMIW settled the issues, nor did he provide any documentation to support this position.

LCDR. Tucker  
USS DULUTH  
December 8, 1988  
Page five

In response, NMIW is reviewing the Government's position that the additional work was covered by the specification and/or was settled during the project. However, NMIW believes that the REA presented facts that this issue was not covered by the specification or covered by any change order. NMIW will provide a response when this review is completed. Additionally, NMIW requests the on-site Contracting Officer to support his assertion that this issue was settled throughout the project. This would aid in the resolution of this issue.

#### STRUCTURAL REPAIRS BELOW MAIN DECK

The Government's position was to offer 709 hours for this issue. NMIW is evaluating the Contracting Officer's offer at the present time and will respond accordingly.

#### LIVING BARGE IX-502

The negotiations between NMIW and the on-site Contracting Officer revealed that, at this time, the Government does not recognize entitlement for this issue as "NMIW had an opportunity to shipcheck the IX-502 Barge during the bid period"; although he did not provide any support for this position. The on-site Contracting Officer, however, stated that if NMIW can refute this position, the issue would be open to further negotiations. In response, NMIW is reviewing the on-site Contracting Officer's statements and will provide support for NMIW's position.

#### PROPULSION SHAFTING REA

The on-site Contracting Officer has denied entitlement on this issue stating that the Government issued a price proposal for this work which was negotiated and agreed to. In response, NMIW is reviewing the job documents to review whether this issue has been negotiated and agreed to between NMIW and the Government. NMIW will provide a response when this review is completed.

#### LOSS OF USE OF MONEY

The on-site Contracting Officer has denied entitlement on this issue stating that the Government views this issue as an unallowable cost under the FAR as interest.

In response, FAR Para 31.205-20 discusses the allowability of interest and other financial costs. It states in part:

Interest on borrowings (however represented), . . . are unallowable . . .  
[Emphasis added.]

LCDR. Tucker  
USS DULUTH  
December 8, 1988  
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NMIW's request for the loss of use of money is not an interest on borrowings or any other category listed in FAR 31.205-20. As discussed on pages 59 and 60 of the REA Justification for Payment, this issue addresses the recovery of the loss of NMIW's equity or capital which resulted from financing the additional work outlined in the REA. As stated on page 59 of the Justification for Payment, the Armed Services Board of Contract Appeals has recognized a company's detrimental loss of use of its capital when forced to finance Government caused changes.

In order to provide a reasonable estimate of the loss of use of this money, NMIW utilized a computation based on investing this capital into a conservative 52 week Treasury Bill earnings account. NMIW has utilized the 52 week Treasury Bill rates instead of a more speculative capital stock or mutual fund growth rate. Thus, while the calculation is based upon an interest bearing account, the loss of use of money is not an unallowable cost pursuant to FAR 31.205-20. NMIW believes that it is entitled to these costs as outlined in its REA.

#### PROPOSAL PREPARATION COSTS

The REA requested a total of \$251,649 for proposal preparation costs incurred prior to the submittal on March 10, 1987. During the negotiations, the on-site Contracting Officer stated that NMIW was not entitled to these costs as "DCAA and SupShip views these costs as unallowable" under the FAR.

In response, NMIW disagrees with the Government's position and provides the following comments.

FAR Para 31.205-33(d) states in part:

Costs of legal, accounting, and consulting services and directly associated costs incurred in . . . the prosecution of claims or appeals against the Government are unallowable. . . [Emphasis added.]

Specifically, this FAR provision disallows those costs involved in the prosecution of claims or appeals. Since this matter has not proceeded to an appeal, and since the costs were incurred prior to its submittal to the Government, the reference to the word "appeal" is not applicable. Thus, the disallowance of these costs apparently is based on the definition of "the prosecution of claims". In order to determine the definition of this phrase, FAR 33.201 states in part:

"Claim," as used in this subpart, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or



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relating to the contract. . . [A] written demand or written assertion by the contractor seeking the payment of money exceeding \$50,000 is not a claim under the Contract Disputes Act of 1978 until certified as required by the Act and 33.207. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission date may be converted to a claim by written notice to the Contracting Officer as provided in 33.206(a), if it is disputed either as to liability or amount or is not acted upon in a reasonable time. [Emphasis added.]

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Contractor claims shall be submitted in writing to the Contracting Officer for a decision. The Contracting Officer shall document the contract file with evidence of the date of receipt of any submission from the Contractor deemed to be a claim by the Contracting Officer. [Emphasis added.]

NMIW submitted its REA on March 10, 1987. Subsequently, a meeting was held between NMIW and SupShip Seattle on May 19, 1987 to discuss the submittal. At this meeting, the Contracting Officer was questioned as to when a decision would be received from the Government. In response, the Contracting Officer stated that he could not tell NMIW when decision would be made on the REA.

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It is an implied conversion of your Request for Equitable Adjustment into a claim as that term is defined at FAR 33.201 and constitutes the initiation of a claim as per FAR 33.206. This interpretation appears consistent with the preliminary, oral assessment we presented to you on Request for Equitable Adjustment on 19 May 1987.

This means that the timing for issuance of a Contracting Officer's decision is governed by FAR 33.211(c)(2). [Emphasis added.]

Thus, while the on-site Contracting Officer has denied entitlement to the requested proposal preparation costs, his rationale is not supported by the FAR and the correspondence regarding the Contracting Officer's determination of the REA to be in dispute as a claim as a result of NMIW's May 21, 1987 letter. NMIW is entitled to be compensated for these costs as they were incurred prior to this date.

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#### CEILING ADJUSTMENT

The on-site Contracting Officer stated that the ceiling adjustment issue will be determined after final contract negotiations. NMIW does not object to this determination as it is consistent with the ceiling adjustment made to the CUSHING REA.

#### INTEREST

The on-site Contracting Officer's position was that interest is allowable under certain circumstances and would be determined after final negotiations like the ceiling adjustment. In response, NMIW's position on this issue is that interest is allowable on the negotiated amount pursuant to the Contract Disputes Act from the date of claim until the claim is paid by the Government. The amount of interest will be determined on final negotiation and settlement of the REA.

#### CONCLUSION

While NMIW is reviewing the Government's comments concerning the STORIS, Emergency Stern Gate Rigging, Living Barge, and Propulsion Shafting issues, NMIW believes the positions taken by the on-site Contracting Officer on the remaining issues failed to address the points raised by the REA in either the Statement of Facts or Justification of Payment sections. NMIW is once again displeased that the issues have not been addressed yet reference (e) states in part:

Considerable effort has been expended by the Government on the USS DULUTH REA to reach a position from which negotiations can commence. The considerable variance between our position arises from poorly supported pricing on the part of the Contractor.

However, the apparent variance in position is the denial of entitlement not the issue of pricing. Further, as stated above, the on-site Contracting Officer denied entitlement yet failed to address the issues of entitlement raised by the REA. NMIW believes that the issues raised by the REA should have been discussed. Although the Contracting Officer, by reference (e), stated that it was not the Government's duty to justify the Contractor's entitlement, NMIW believes that the Government has a duty to justify its own position.

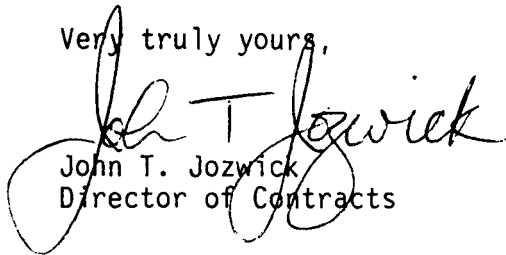
As stated above, NMIW is reviewing several of the issues addressed in the REA as presented by the on-site Contracting Officer. NMIW requests that those remaining issues discussed above be addressed specifically to the facts and justification presented in the REA. Additionally, NMIW requests that the

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on-site Contracting Officer substantiate and/or justify his positions regarding denial of entitlement and assertions of fact. NMIW's negotiator will remain in contact with the on-site Contracting Officer to resume negotiations when NMIW has completed its review of the specified issues, and when it has received a response to the issues regarding Manday Reservation, Underwater Hull Work and Drydock Extension, Emergency Stern Gate, Loss of Use of Money, and Proposal Preparation Costs.

If you have any questions regarding the above, do not hesitate to contact the undersigned.

Very truly yours,



John T. Jozwick  
Director of Contracts



## NORTHWEST MARINE IRON WORKS

December 8, 1988

Supervisor of Shipbuilding  
Conversion and Repair, USN  
Seattle, WA 98115

Attention: LCDR. C. Tucker, (SC) USN  
Contracting Officer

Subject: USS DULUTH  
Contract Number N00024-85-C-8506;  
Request for Equitable Adjustment Negotiations

References: (a) SupShip Letter Serial 4113-4360 dated 5 October 1988  
(b) NMIW Letter dated 11 October 1988  
(c) SupShip Letter Serial 4113-4370 dated 17 October 1988  
(d) NMIW Letter dated 4 November 1988  
(e) SupShip Letter Serial 400-4938 dated 17 November 1988

Gentlemen:

By reference (a), the on-site Contracting Officer confirmed that negotiations of the subject Request for Equitable Adjustment (REA) had commenced on 9 September 1988. The on-site Contracting Officer also stated that the Navy had responded to all elements of the REA.

Reference (b) confirmed that negotiation of the DULUTH REA had commenced. However, NMIW disagreed with the on-site Contracting Officer that the Navy had responded to all elements of the REA.

By reference (c), the on-site Contracting Officer once again stated that the Navy had presented its position for each element of the REA.

In reference (d), NMIW discussed the DULUTH negotiations, and a visit by Captain Harshbarger. Reference (d) provided NMIW's prospective on the DULUTH negotiations and the rationale for its comments contained in the point paper that was attached to the letter. In reference (d), NMIW referred to reference (c) stating that the Government had not responded to the detailed rationale provided for each area of the REA that NMIW believed it was entitled to compensation. Reference (d) continued to state, "while NMIW has provided a justification for each element of its REA, the Supervisor has yet to explain the difference of position in its assessment of entitlement or quantum." As a result, NMIW enclosed a prepared checklist to be utilized by NMIW's negotiator in order to better define areas of entitlement and quantum.

On November 28, 1988, the on-site Contracting Officer and NMIW continued the negotiation of the subject REA. NMIW's negotiator utilized the checklist to ascertain the Government's position on each issue contained within the REA. The following comments summarize the Government's position on each issue and NMIW's response.

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

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## RESPONSES TO DULUTH NEGOTIATIONS

### MANDAY RESERVATION

During the negotiations of November 28, 1988, the on-site Contracting Officer stated that the Government was denying entitlement on this issue because NMIW management agreed to allow SupShip to transfer reserve mandays between the "D and F" and "K" ShipAlts for supplemental and emergent work. As a result of the entitlement denial, no quantum was allowed for this issue.

In response, NMIW provides the following comments.

While the on-site Contracting Officer's position was that NMIW agreed to allow the transfer of reserve mandays between the four categories, he failed to address the issue raised in the REA concerning the manday reservation. Specifically, while NMIW allowed the transfer of reserve mandays between the ShipAlt packages, this was done so after the Government had interpreted and defined the meaning of these packages and the definition and interpretation of supplemental and emergent work categories. Only after the Government had defined and stated to NMIW these respective contract interpretations, did NMIW agree to the transfer. Thus, the on-site Contracting Officer's position on entitlement does not address the issue raised in the REA - an erroneous contract interpretation by the Government.

Pages 3, 4, and 5 of the REA Statement of Facts discuss the supplemental/emergent work clause contained in the DULUTH contract. As stated on pages 5 thru 14, the Government defined the meaning of this contract clause. Pages 12 thru 14 specifically identified the sequence of events that led to the Government's redefinition of the contract provision.

In essence, the Contracting Officer, SupShip Seattle, and NAVSEA had redefined the definition of supplemental work and emergent work from that contained in the contract provision to one of "new work" and "emergent work", respectively. NMIW protested the definitions imposed by the Government as the REA discusses. It wasn't until after the Government's interpretation and redefinition of the clause that there was a discussion concerning the transfer of hours between the ShipAlt packages. However, as addressed in the Request for Equitable Adjustment, the redefinition and interpretation by the Contracting Officer, SupShip and the Government was an erroneous interpretation of the contract provision and was not addressed during the November 28, 1988 negotiations.

In the Justification for Payment section of the REA, NMIW has presented in pages 2 thru 9 its justification that the redefinition, but more importantly, the erroneous interpretation of the contract provision does not bar NMIW from recovering the costs associated with this issue.

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The on-site Contracting Officer has failed to address the issue raised by the REA or to provide a response to the justification for entitlement that NMIW has provided in the REA. As a result, NMIW believes it is entitled to be compensated for these costs.

#### IMPACT COSTS RESULTING FROM ADDITIONAL HULL WORK AND DRYDOCK EXTENSION

During the November 28, 1988 negotiations, the on-site Contracting Officer stated that his position was to deny entitlement as "all impact costs should have been included in the max-mod". Additionally, the on-site Contracting Officer stated that it was the Government's opinion that the extension actually aided rather than hindered NMIW's performance on the contract and thus any issue of delay, disruption, inefficiency or displacement if linked to the additional underwater hull work was denied in entitlement.

Once again, the on-site Contracting Officer has denied entitlement without addressing the specific points raised in the REA. While the on-site Contracting Officer stated that all impact costs should have been included in the max-mod, the REA described in detail, with supporting documentation, the fact that it was the Government who refused to allow NMIW to include these costs in the negotiation of changes. As stated on page 30 of the REA Statement of Facts, the project records recorded that :

Prices are to be negotiated on the basis of work scope only. D & D will be entertained only if they can be qualified to Sup/Ship i.e., assumption of possible D & D will not be accepted. [Emphasis added.]

Additionally:

Both Dan [Enz] and Joe [Brown] [SupShip Seattle] stated they only want to negotiate on the "work scope only". Ancillary delays/disruptions unless absolutely quantified will not be subject of any nego as far as they are concerned. Dan went further saying this is true of any item we feel we've been cheated on or any change orders. I said that every change has an effect upon the specified work. Dan said again that only work scope shall be addressed in negotiations. [Emphasis added.]

Thus, the on-site Contracting Officer's statement that all impact costs should have been included in the max-mod fails to address the issue raised by the REA. The issue is the Government's refusal to include these costs in the negotiation of change orders. Further, not only did the Government refuse to include these costs in the negotiation of change orders, they were also well aware that the price of each change was for the direct scope of work only. Pages 20 thru 50 of the Statement of Facts, detailed the chronology and events that occurred during the negotiation of the additional underwater hull work and drydock extension.

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In addition to the events that occurred regarding this issue, NMIW has provided a detailed justification as to why NMIW is not barred from recovering these costs. Pages 9 thru 47 of the REA Justification for Payment provides an in-depth analysis of why NMIW is entitled to recover those costs that the Government refused to include in the negotiation of change orders. Thus, while the Government's denial of entitlement was based on whether impact costs should have been included in the max-mod, the on-site Contracting Officer has not addressed the issue raised in the REA nor has he provided any justification for the Government's position in response to NMIW's analysis and justification of this issue. NMIW believes that it is entitled to recover these costs.

#### SHIP'S FORCE IMPACTS AND DEFECTIVE SPECIFICATIONS

During the November 28, 1988 negotiations regarding these two issues, the Contracting Officer has recognized entitlement and proposed an offer on each issue. The on-site Contracting Officer, however, was not specific about where the basis of his offer was found or how it was determined. Thus, NMIW is evaluating the offer made by the on-site Contracting Officer in attempting to determine the basis of this offer.

#### USCGC STORIS

The Government's position on this issue was to deny entitlement in total. NMIW's understanding of this denial is based on the on-site Contracting Officer's statements that in the Government's opinion, the STORIS delay to dry-docking were: NMIW made; that if there was Government responsibility, it is a concurrent delay; and that early severe cold weather impacted the DULUTH's undocking which, in turn, delayed STORIS docking which is an act of God and not compensable as Government liability.

In response, NMIW is evaluating the Contracting Officer's statements and will respond when our review is completed.

#### EMERGENCY STERN GATE RIGGING

The Government's position on this issue was to deny entitlement in total. The Government's position was that the additional effort asserted in the REA was covered by the basic specification item or the standard item interferences provision. The on-site Contracting Officer also stated that all issues regarding the emergency stern gate were settled during the project but could not identify who from NMIW settled the issues, nor did he provide any documentation to support this position.

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In response, NMIW is reviewing the Government's position that the additional work was covered by the specification and/or was settled during the project. However, NMIW believes that the REA presented facts that this issue was not covered by the specification or covered by any change order. NMIW will provide a response when this review is completed. Additionally, NMIW requests the on-site Contracting Officer to support his assertion that this issue was settled throughout the project. This would aid in the resolution of this issue.

#### STRUCTURAL REPAIRS BELOW MAIN DECK

The Government's position was to offer 709 hours for this issue. NMIW is evaluating the Contracting Officer's offer at the present time and will respond accordingly.

#### LIVING BARGE IX-502

The negotiations between NMIW and the on-site Contracting Officer revealed that, at this time, the Government does not recognize entitlement for this issue as "NMIW had an opportunity to shipcheck the IX-502 Barge during the bid period"; although he did not provide any support for this position. The on-site Contracting Officer, however, stated that if NMIW can refute this position, the issue would be open to further negotiations. In response, NMIW is reviewing the on-site Contracting Officer's statements and will provide support for NMIW's position.

#### PROPULSION SHAFTING REA

The on-site Contracting Officer has denied entitlement on this issue stating that the Government issued a price proposal for this work which was negotiated and agreed to. In response, NMIW is reviewing the job documents to review whether this issue has been negotiated and agreed to between NMIW and the Government. NMIW will provide a response when this review is completed.

#### LOSS OF USE OF MONEY

The on-site Contracting Officer has denied entitlement on this issue stating that the Government views this issue as an unallowable cost under the FAR as interest.

In response, FAR Para 31.205-20 discusses the allowability of interest and other financial costs. It states in part:

Interest on borrowings (however represented), . . . are unallowable . .  
. [Emphasis added.]



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December 8, 1988  
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NMIW's request for the loss of use of money is not an interest on borrowings or any other category listed in FAR 31.205-20. As discussed on pages 59 and 60 of the REA Justification for Payment, this issue addresses the recovery of the loss of NMIW's equity or capital which resulted from financing the additional work outlined in the REA. As stated on page 59 of the Justification for Payment, the Armed Services Board of Contract Appeals has recognized a company's detrimental loss of use of its capital when forced to finance Government caused changes.

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LCDR. Tucker  
USS DULUTH  
December 8, 1988  
Page eight

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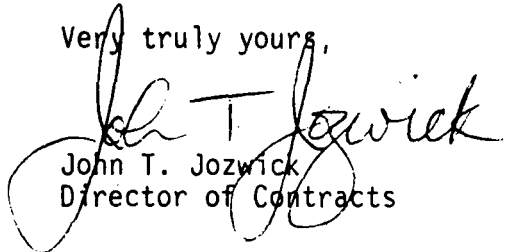
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Very truly yours,



John T. Jozwick  
Director of Contracts

## NORTHWEST MARINE IRON WORKS

PREPARED:  
SATURDAY 12/03/88

	MON 28-Nov	TUE 29-Nov	WED 30-Nov	THUR 01-Dec	FRI 02-Dec	MON 05-Dec	TUE 06-Dec	WED 07-Dec	THUR 08-Dec	FRI 09-Dec	1 WEEK FRI 16-Dec	1 WEEK FRI 23-Dec	1 WEEK FRI 30-Dec	1 WEEK FRI 06-Jan
BEGINNING LOAN BALANCE	4,762	4,160	4,858	5,070	4,554	4,900	4,940	5,054	3,889	4,114	3,928	3,971	4,115	3,990
CASH DISBURSEMENTS														
SALARY PAYROLL			100								100		100	
HOURLY PAYROLL				15					15		15	15	15	15
PAYROLL TAX/BENEFITS		30				30					30		30	
DEBT SERICE		110									110		0	
COD/HANDWRITES	10	10	10	10	10	10	10	10	10	10	10	10	10	10
ACCTS PAY RELEASE - OHD, G&A,		350			156					400	180	280	219	380
PROJECT COSTS:														
LABOR				210					200		177	170	170	170
PAYROLL TAXES/BENEFITS		104					104				0	595	0	0
POP		94			100					100	100	100	100	100
FRINGE BENEFITS			102		130									
ACCTS PAY RELEASE														
SIPCO														
TOTAL DISBURSEMENTS	10	698	212	235	396	40	114	10	225	510	722	1,169	644	675
CASH RECEIPTS														
FOSTER								900						
OKINAWA	612			751						646	629	635	367	1,000
KAWISHIWI														
ZEUS														
EXXON BENICIA														
CLEARWATER														
MERCUR														
HIGGINS													352	
MERCY														
WEST COAST SHIPPING														
TROPICALE								275						
GOLDEN GATE												340		
OTHER					50					50	50	50	50	50
TOTAL RECEIPTS	612	0	0	751	50	0	0	1,175	0	696	679	1,025	769	1,050
ENDING LOAN BALANCE	4,160	4,858	5,070	4,554	4,900	4,940	5,054	3,889	4,114	3,928	3,971	4,115	3,990	3,615
LOAN LINE	5,250	5,250	5,250	4,500	4,500	4,500	4,500	4,350	4,350	4,350	4,350	4,350	4,250	3,550
UNDER (OVER) LINE	1,090	392	180	(54)	(400)	(440)	(554)	461	236	422	379	235	260	(65)

	MON 28-Nov	TUE 29-Nov	WED 30-Nov	THUR 01-Dec	FRI 02-Dec	MON 05-Dec	TUE 06-Dec	WED 07-Dec	THUR 08-Dec	FRI 09-Dec	16-Dec	23-Dec	30-Dec	06-Jan
BEGINNING ACCOUNTS PAYABLE	7,652	7,642	7,084	6,972	6,962	6,903	6,893	6,779	6,769	6,759	6,607	6,644	6,192	6,196
PAYMENTS	10	558	112	10	396	10	114	10	10	510	290	985	329	490
ADDITIONS:														
JOB COST														
PAYROLL TAXES/BENEFITS					104					104	92	110	110	110
MATERIAL					40					35	35	30	30	25
SUBCONTRACTOR					75					75	75	75	75	75
PORT OF PORTLAND					66					91	73	66	66	51
OVERHEAD (LESS PAYROLL COSTS)														
PRODUCTION					23					23	23	23	23	23
G & A					29					29	29	29	29	29
OTHER												200		
TOTAL ADDITIONS	0	0	0	0	337	0	0	0	0	357	327	533	333	313
ENDING ACCOUNTS PAYABLE	7,642	7,084	6,972	6,962	6,903	6,893	6,779	6,769	6,759	6,607	6,644	6,192	6,196	6,020

## NORTHWEST MARINE IRON WORKS

 PREPARED:  
 SATURDAY 12/03/88

1 WEEK FRI 13-Jan	1 WEEK FRI 20-Jan	1 WEEK FRI 27-Jan	1 WEEK FRI 03-Feb	1 WEEK FRI 10-Feb	1 WEEK FRI 17-Feb	1 WEEK FRI 24-Feb	1 WEEK FRI 03-Mar	1 WEEK FRI 10-Mar	1 WEEK FRI 17-Mar	1 WEEK FRI 24-Mar	1 WEEK FRI 31-Mar	1 WEEK FRI 07-Apr	1 WEEK FRI 14-Apr
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BEGINNING LOAN BALANCE	3,615	2,947	3,038	2,469	2,315	1,861	1,687	1,745	1,211	652	1,256	1,581	1,795	1,939
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## CASH DISBURSEMENTS

SALARY PAYROLL		100		100		100		100		100		100		
HOURLY PAYROLL	15	15	15	15	15	15	15	15	15	15	15	15	15	15
PAYROLL TAX/BENEFITS	30		30		30		30		30		30		30	
DEBT SERICE		110				110			110					
COD/HANDWRITES	10	10	10	10	10	10	10	10	10	10	10	10	10	10
ACCTS PAY RELEASE - OHD, 6&A,	380	230	380	180	180	180	180	180	180	180	180	0	0	0
PROJECT COSTS:														
LABOR	138	138	138	138	106	106	106	106	38	38	38	38	38	26
PAYROLL TAXES/BENEFITS	10	439	8	103	6	6	417	6	1	101	1	1	1	0
POP	100	100	100	100	100	100	100	100	100	100	100	100	100	100
FRINGE BENEFITS														
ACCTS PAY RELEASE														
SIPCO														
TOTAL DISBURSEMENTS	683	1,141	681	645	446	626	858	516	374	654	374	264	194	151

## CASH RECEIPTS

FOSTER														
OKINAWA	1,000	1,000	1,000	750	750	750	750	1,000	884					
KAWISHIWI	300													
ZEUS														
EXXON BENICIA														
CLEARWATER														
MERCUR														
HIGGINS			200											
MERCY				100										
WEST COAST SHIPPING														
TROPICALE														
GOLDEN GATE														
OTHER	50	50	50	50	50	50	50	50	50	50	50	50	50	50
TOTAL RECEIPTS	1,350	1,050	1,250	800	900	800	800	1,050	934	50	50	50	50	50
ENDING LOAN BALANCE	2,947	3,038	2,469	2,315	1,861	1,687	1,745	1,211	652	1,256	1,581	1,795	1,939	2,040
LOAN LINE	3,200	3,150	2,650	2,600	2,450	2,400	2,600	2,434	1,500	1,450	1,400	1,350	1,300	1,250
UNDER (OVER) LINE	253	112	181	285	589	713	855	1,223	848	194	(181)	(445)	(639)	(790)

13-Jan	20-Jan	27-Jan	03-Feb	10-Feb	17-Feb	24-Feb	03-Mar	10-Mar	17-Mar	24-Mar	31-Mar	07-Apr	14-Apr
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BEGINNING ACCOUNTS PAYABLE	6,020	5,836	5,462	5,268	5,200	5,192	5,176	4,845	4,825	4,770	4,615	4,594	4,612	4,628
PAYMENTS	500	779	498	393	296	296	707	296	291	391	291	111	111	110
ADDITIONS:														
JOB COST														
PAYROLL TAXES/BENEFITS	91	91	91	91	73	73	73	73	33	33	33			
MATERIAL	25	20	20	15	15	15	10	10	10	10	10	1		
SUBCONTRACTOR	75	75	75	75	75	75	75	75	75	75	75	75	75	75
PORT OF PORTLAND	73	66	66	91	73	66	66	66	66	66	66			
OVERHEAD (LESS PAYROLL COSTS)														
PRODUCTION	23	23	23	23	23	23	23	23	23	23	23	23	23	23
G & A	29	29	29	29	29	29	29	29	29	29	29	29	29	29
OTHER		100					100				100			
TOTAL ADDITIONS	316	404	304	324	288	281	376	276	236	236	270	128	127	127
ENDING ACCOUNTS PAYABLE	5,836	5,462	5,268	5,200	5,192	5,176	4,845	4,825	4,770	4,615	4,594	4,612	4,628	4,645

NEIL GOLDSCHMIDT  
GOVERNOR



OFFICE OF THE GOVERNOR  
STATE CAPITOL  
SALEM, OREGON 97310-1347

December 2, 1988

The Honorable Everett A. Pyatt  
Assistant Secretary of the Navy  
for Shipbuilding and Logistics  
Crystal Plaza #5  
2211 Jefferson Davis Parkway  
Washington, D.C. 20360-2000

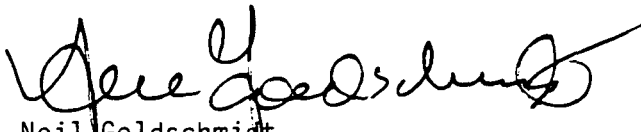
Dear Mr. Assistant Secretary:

We have received and reviewed a proposal to you from Northwest Marine Iron Works (NMIW) for the decommissioning of nuclear submarines from the Bremerton Naval shipyards. My staff has reviewed supporting documentation such as the EIS on submarine disposal, and risk assessments supplied by NMIW staff.

The company has been forthcoming in its explanation of the proposal. Based on our preliminary review, I support NMIW's proposal.

As the project moves forward, and I hope it will, we would expect to work closely with you and with NMIW to confirm our belief that this project offers good economic prospects for Oregon without posing significant environmental or safety risks.

Sincerely,



Neil Goldschmidt  
Governor

✓cc: Mr. Bill Zavín, President, NMIW

0349n

NWMAR134297

*Price Waterhouse*



November 23, 1988

Mr. Gilbert N. Miller  
Executive Vice President  
Northwest Marine Iron Works  
P.O. Box 3109  
Portland, Oregon 97208

Dear Gil:

Pursuant to your request, we have looked into the issue of what is the "value" of Northwest Marine Iron Works' (NWMIW) approximately \$30 million of net operating losses (NOLs) when viewed in conjunction with a contemplated change of ownership -- whether it be by a sale of the company, an acquisition of another company, or by taking on a new minority shareholder. As I mentioned on the phone, any measure of "value" would be based on the availability of the NOLs after an ownership change, since potentially severe limitations on NOL utilization can arise from such transactions; that is to say, the value of the NOL to a buyer can be expected to be something less than \$30 million x 34%. It may also prove helpful to you to have a basic understanding of the theory behind the NOL limitation law so that you can envision the types of transactions Congress is attempting to discourage. This letter, therefore, outlines in general terms (1) the underlying Congressional theory of limiting the buying and selling of NOLs, (2) the rules concerning limitations on NOL utilization and when they are triggered, and (3) suggestions as to possible courses of action.

The theory behind the limitations on NOL buying and selling

The basic premise behind the NOL limitation rules is twofold: (1) NOL carryovers are supposed to permit income and losses to be averaged over a period of





years, thereby permitting relief to a taxpayer from the consequences of strict annual accounting, and (2) this relief should be taxpayer-specific, and therefore should not be transferable between taxpayers. In order to implement this premise, Congress drafted rules aimed at limiting what the "value" of an NOL carryover would be to a prospective buyer to what it would be to the corporation which generated it. In other words, the theory is that NOLs should generally be available to a buyer of a corporation, but only to the extent that they would have been available to the seller had the acquisition not taken place.

Limitations on NOL utilization and when they are triggered

The determining factor as to whether or not NOL limitations apply is whether an ownership change of more than 50 percentage points of the stock value in the "NOL corporation" has occurred over a prescribed period of time. Although the rules surrounding the application of this seemingly straightforward statement are complex and can involve a great deal of analysis, a general description is outlined as follows.

- I. The 50 percentage point change measurement is made only if (1) one of two types of ownership "shifts" has first occurred, and (2) the "shift" occurs in a year in which the corporation has a loss or to which it may carry over an NOL. The two types of shifts are referred to as (1) a shift involving a "5% shareholder" and (2) an "equity structure shift".
  - A. A 5% shareholder shift occurs anytime the ownership percentage of a shareholder who directly or indirectly owns 5% of the stock value of the corporation changes. For this purpose a 5% shareholder includes both a shareholder who owned 5% of the stock before the change occurred, as well as one who owned 5% after the change.
  - B. An equity structure shift occurs anytime the NOL



corporation is involved in either a taxable or nontaxable reorganization (with certain limited exceptions), as well as public offerings.

II. If one of the above types of ownership shifts occurs, the 50 percentage point change measurement is then made over a three-year testing period ending with the date of the ownership shift. The focal point in measuring the change is the ownership interest of each 5% shareholder.

A. The "change" referred to only includes increases in stock ownership.

B. For each 5% shareholder, the increase is determined by comparing such shareholder's percentage interest immediately after the "shift" referred to above with that shareholder's lowest percentage interest in the NOL corporation during the three-year testing period. Each shareholder's percentage increase is then aggregated. If the aggregate percentage increase exceeds 50 percentage points, an "ownership change" has occurred.

III. Such an "ownership change" triggers the NOL limitation rules.

IV. The limitation is based on the value of the NOL corporation as determined immediately before the ownership change (with certain exceptions). The greater the value, the less severe the limitation is.

A. In determining the value, capital contributions made to the NOL corporation within the two-year period ending on the ownership change date are generally disregarded. An exception, expected to be included in forthcoming regulations, should be provided for contributions made in order to meet basic working capital needs encountered in the ordinary course of business.

B. The limitation is calculated by multiplying the value of the corporation by the Federally determined long-term tax-exempt rate (e.g., if



the value of the corporation is \$10 million and the applicable federal rate is 9%, then the loss utilization would be limited to \$900,000 per year).

- C. The limitation as calculated is applied each year to determine the amount of taxable income which may be offset by NOLs generated prior to the ownership change.

V. Other noteworthy rules

- A. Unrealized "built-in gains" and "built-in losses" of the NOL corporation which exist at the time of the ownership change can alter the amount of the NOL limitation in the year such gains or losses are recognized.
1. An unrealized built-in gain is the amount by which the value of the NOL corporation's assets just prior to the ownership change exceeds the aggregate adjusted basis of those assets at that time (subject to a de minimis allowance rule). Conversely, an unrealized built-in loss exists when the aggregate adjusted asset basis exceeds the assets' value just prior to the ownership change.
  2. In making this determination, asset value does not include cash or cash equivalents.
  3. Built-in gains recognized within five years of the ownership change date increase the amount of the NOL allowed in the year of such gain recognition.
  4. Built-in losses recognized within five years of the ownership change date are treated as if they were a part of the pre-change NOL and are therefore subject to the general limitation rules.
- B. The "continuity of business enterprise" test must be met in order to utilize any of the pre-



change NOL. Under this rule, for the two-year period beginning on the ownership change date, either the historic business of the NOL corporation must be continued or a significant portion of the NOL corporation's assets must be used in a business.

1. Even if there is a lack of continuity, a pre-change NOL can still be utilized to the extent built-in gains (as well as certain other gains) are recognized.
- C. A special exception to the NOL limitation rules exists for companies in bankruptcy proceedings under the jurisdiction of a court in a Title 11 or similar case. However, it only applies if the ownership change is ordered by the court under its plan and the current shareholders and certain creditors retain at least 50% of the stock of the corporation after the change.
1. If the exception applies, the annual limitation on NOL utilization is not applicable. However, the NOL itself is partially reduced.
  2. If the exception applies, a second ownership change within two years of the initial change must be avoided.
  3. Certain "bankruptcy workouts" which result in ownership changes but do not meet the above requirement are still entitled to a benefit. The value of the corporation for purposes of determining the NOL limitation is measured immediately after the ownership change as opposed to before it, which should result in a higher value.
- D. An information statement is now required to be filed by an NOL corporation each year with its federal income tax return. Generally, this statement must provide information as to stock ownership and changes in such ownership.



- E. It should be noted that the rules outlined above are to be applied in conjunction with existing NOL limitation rules which are applicable in certain instances to affiliated corporate taxpayers filing consolidated tax returns and to certain acquisitions made to evade or avoid taxes.

Suggestions as to possible courses of action

1. Take part in an ownership shifting transaction or transactions, but make sure that an ownership change of 50 percentage points does not occur within the specified three-year period.
2. Investigate the possibility of working with the bankruptcy court to reorganize the company's ownership structure. Although this suggestion may not seem practical, the potential advantage to be gained by avoiding the NOL limitation rules appears to warrant making inquiries as to this possibility. We mention this because if the current value of NWMIW is relatively small, this could result in a severe curtailment of NOL utilization if a 50 percentage point ownership change were to occur outside of the court's jurisdiction.
3. If an ownership change of 50 percentage points (outside of bankruptcy court) is anticipated, consider reducing corporate debt (possibly through a stock for debt exchange) prior to such a change. Such a debt reduction would serve to increase the company's value, thereby reducing the severity of the NOL limitation. Of course, a stock for debt exchange would in and of itself be a change of ownership and care must therefore be taken to ensure that this change does not result in a 50 percentage point increase. In addition, careful planning would be necessary to reduce any exposure of having the two transactions collapsed into one which would negate the increase in value.



4. A strategy for avoiding the NOL limitation which is beginning to receive some press involves an "interest-rate swap". The basic premise is that the NOL corporation, prior to merging with another company, negotiates to refinance its debt (principally floating-rate debt which is replaced with fixed-rate debt). The key, however, is that the restructured debt carries an abnormally high interest rate. To compensate for this interest-rate jump, the lender compensates the corporation with a one-time cash payment (which, depending on the size of the debt and the rate jump involved, can represent a significant amount). In economic terms the corporation remains neutral, but the cash payment represents taxable income which can be offset by the NOL. The merger can then proceed and the interest expense generated by the new high-rate debt serves to shelter future profits without limitation. If this type of transaction were to be pursued, it would require careful planning since it is at least likely that the IRS might attempt to attack it as a tax avoidance transaction having no real economic substance.

The above is intended to be a general coverage of the rules applying to NOL utilization when there is a stock ownership change. Planning opportunities do present themselves in factual settings that arise in buyer-seller negotiations. We would be pleased to assist in that regard should you desire. Should you have any interest in pursuing any of the above ideas, or have any questions or comments, please do not hesitate to call either Chuck Gottschalk of our office or me.

Sincerely,



James M. Costello

JMC/crg



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

December 1, 1988

Captain J. Schultz, USN  
Commander  
Military Sealift Command, Pacific  
Building 310-5  
Naval Supply Center  
Oakland, CA 94625-5010

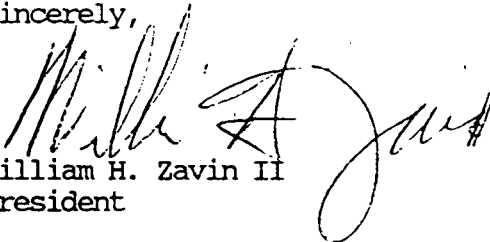
Dear Commodore:

I must express my concern that the finalization of MERCY and KAWISHIWI contracts appear to be no further along than when I raised the issue with you in early September.

The attached status memorandum from our Contracts Director, John Jozwick, indicates little understanding of the sense of urgency needed by MSC PAC in resolving these issues.

I would greatly appreciate your support in bringing these outstanding issues to a rapid close.

Sincerely,

  
William H. Zavín II  
President

WHZ/ba

Enclosure

NWMAR134305



COMMANDER  
MILITARY SEALIFT COMMAND  
PACIFIC

9 December 1988

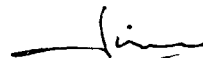
Dear Bill —

I agree with the concern you raised in your letter of December 1, 1988 and have reviewed the actions being taken by my command to settle the MERCY and KAWISHIWI contracts.

My staff recognizes and shares the sense of urgency your company has in resolving the issues. As you are aware, some of the issues are complex. Those issues will continue to require time to perform the necessary analyses prior to the final establishment of a firm Government position in response to your requests for adjustment.

You can be assured that it is MSCPAC's intention to bring these outstanding issues to a close as rapidly as possible. I will continue to push in that direction.

Sincerely,

  
J. S. Schultz,  
Captain USN

Mr. William H. Zavín II  
President  
Northwest Marine Iron Works  
P. O. Box 3109  
Portland, Or. 97208

NWMAR134306





COMMANDER  
MILITARY SEALIFT COMMAND  
PACIFIC

9 December 1988

*Dear Bill* —

I agree with the concern you raised in your letter of December 1, 1988 and have reviewed the actions being taken by my command to settle the MERCY and KAWISHIWI contracts.

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President  
Northwest Marine Iron Works  
P. O. Box 3109  
Portland, Or. 97208

NWMAR134307



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
5555 N. CHANNEL AVE., BLDG. 2  
PORTLAND, OREGON 97217  
PHONE: (503) 285-7557  
TWX: 910-464-6107 NORMARINE PTL

December 1, 1988

Captain J. Schultz, USN  
Commander  
Military Sealift Command, Pacific  
Building 310-5  
Naval Supply Center  
Oakland, CA 94625-5010

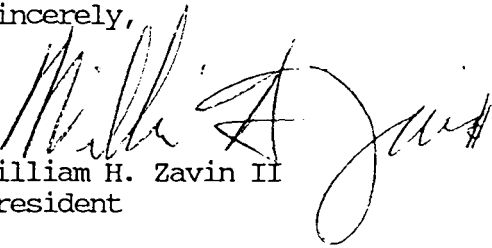
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The attached status memorandum from our Contracts Director, John Jozwick, indicates little understanding of the sense of urgency needed by MSCPAC in resolving these issues.

I would greatly appreciate your support in bringing these outstanding issues to a rapid close.

Sincerely,

  
William H. Zavín II  
President

WHZ/ba

Enclosure

NWMAR134308



## NORTHWEST MARINE IRON WORKS

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PORTLAND, OR 97208  
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December 1, 1988

Captain J. Schultz, USN  
Commander  
Military Sealift Command, Pacific  
Building 310-5  
Naval Supply Center  
Oakland, CA 94625-5010

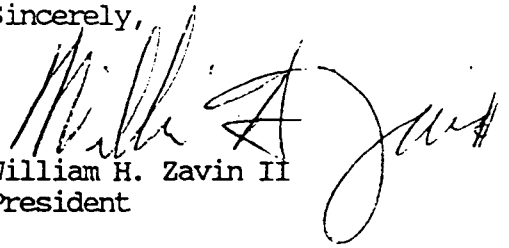
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Sincerely,

  
William H. Zavín II  
President

WHZ/ba

Enclosure

NWMAR134309



COMMANDER  
MILITARY SEALIFT COMMAND  
PACIFIC

9 December 1988


Dear Bill —

I agree with the concern you raised in your letter of December 1, 1988 and have reviewed the actions being taken by my command to settle the MERCY and KAWISHIWI contracts.

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J. S. Schultz,  
Captain USN

Mr. William H. Zavín II  
President  
Northwest Marine Iron Works  
P. O. Box 3109  
Portland, Or. 97208

NWMAR134310



COMMANDER  
MILITARY SEALIFT COMMAND  
PACIFIC

9 December 1988

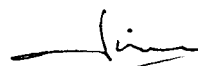
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Captain USN

Mr. William H. Zavin II  
President  
Northwest Marine Iron Works  
P. O. Box 3109  
Portland, Or. 97208



## NORTHWEST MARINE IRON WORKS

MAILING ADDRESS: P.O. BOX 3109  
PORTLAND, OR 97208  
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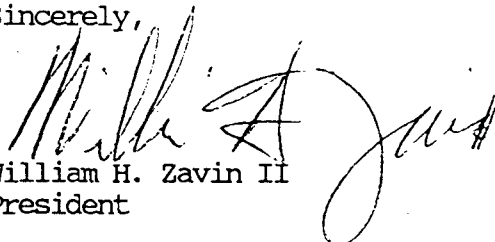
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Sincerely,

  
William H. Zavín II  
President

WHZ/ba

Enclosure



## DEPARTMENT OF THE NAVY

MILITARY SEALIFT COMMAND, PACIFIC  
OAKLAND, CALIFORNIA 94625-5010

IN REPLY REFER TO:

4330  
P-10-1  
30 Nov 88

Northwest Marine Iron Works, Inc.  
Attn: Mr. John T. Jozwick  
5555 N. Channel Avenue  
Portland, OR 97217

Subj: USNS KAWISHIWI CONTRACT NO. N62383-88-C-0001, REQUEST FOR EQUITABLE  
ADJUSTMENT IN RESPONSE TO NORTHWEST MARINE IRON WORKS LETTERS (2)  
SERIAL NOS. 3355-38 AND 3355-40

Ref: (a) NWMIW ltr Ser 3355.49 of 15 Nov 88  
(b) MSCPAC ltr of 21 Nov 88

1. Subject REAs were received at MSCPAC on 26 October 1988. These REAs were submitted to Legal Department for review and then forwarded to our technical personnel on 07 November for development of Technical Analysis Reports (TARs) thereto.
2. Our technical personnel anticipate completion of the TARs on or before 23 December 1988. It will entail approximately 30 days after completion of the TARs for our Contracting Office to develop a pre-negotiation position and obtain Headquarters approval to enter into negotiations pertaining to these REAs.
3. Hopefully this tentative schedule of events will satisfy your reference (a) request for status of your REAs.
4. Reference (a) also requested status of your pre-drydocking REA (NWMIW letter Serial No. 3355.36). This REA was addressed by MSCPAC via reference (b) wherein we informed you that the threshold issue of entitlement was significantly impacted by your failure to provide sufficient data to support any quantum determination. We, therefore, requested you either resubmit the REA with supporting documentation showing the actual impact of a specified event on your ability to work, or request a Contracting Officers' Final Decision.

Sincerely,

A. T. LAWRENCE  
Contracting Officer

1 DECEMBER 1988

OKINAWA DEFUELING REA:

- SUBMITTED TO GOV'T. ON 19 SEPTEMBER
- GOV'T. REQUEST FOR ADDITIONAL INFORMATION ON 14 OCTOBER
- SUBMITTAL OF REQUESTED ADDITIONAL INFORMATION ON 17 NOVEMBER
- GOV'T. REVIEW OF ADDITIONAL INFORMATION IN PROCESS. DCAA NOT YET SCHEDULED FOR AUDIT OF NMIW RECORDS
- \* OUR PLAN IS TO PRESS THE GOV'T. FOR DCAA AND FORMAL TECHNICAL REVIEW REQUIRED FOR SETTLEMENT. WE BELIEVE NO NEGOTIATION WILL TAKE PLACE PRIOR TO THESE FORMAL REVIEWS.

OKINAWA ASBESTOS ABATEMENT:

- SUBMITTED PACKAGE TO GOV'T. ON 17 OCTOBER
- PRELIMINARY NEGOTIATIONS CONDUCTED WITH SUPSHIP CONTRACTS DURING WEEK OF 21 NOVEMBER
- FINAL NEGOTIATION SCHEDULED FOR 1 DECEMBER

→ SETTLED 12/1/88 ←



### OKINAWA FREEBOARD WORK:

- SUBMITTAL OF COSTS AND BACKUP DATA TO GOV'T. FOR ACCOMPLISHING SIGNIFICANT ADDITIONAL SQUARE FOOTAGE OF FREEBOARD AREA.
- PRELIMINARY DISCUSSION WITH SUPSHIP PROJECT OFFICER AND CONTRACT OFFICER ON 7 NOVEMBER. GOV'T. MAKES INFORMAL OFFER THAT IS UNACCEPTABLY LOW.
- GREG LIND PROVIDES REVISED COST DATA FOR GENERATION OF FORMAL REA SUBMITTAL. COST DATA PROVIDED ON 1 DECEMBER.
- REA PACKAGE TO BE SUBMITTED TO GOV'T. WEEK OF 5 DECEMBER.
- \* OUR PLAN IS TO PRESS FOR NEGOTIATIONS AFTER ALLOWING GOV'T. REVIEW PERIOD OF TWO WEEKS.

### OKINAWA CREW MOVE ASHORE:

- THIS ITEM OF GOV'T. IMPACT TO NMIW COST PERFORMANCE AS A RESULT OF THE CREW'S DELAY IN VACATING SHIPBOARD WORK AREAS HAS NOT YET BEEN FORMALIZED INTO A PACKAGE FOR SUBMITTAL.
- \* COMPLETION OF STORIS REA AND GENERATION OF DATA REQUESTED BY THE GOV'T. IN SUPPORT OF OTHER OKINAWA COST RECOVERY ITEMS HAVE TAKEN PRIORITY OVER PREPARATION OF "CREW MOVE ASHORE" PACKAGE.

STORIS REA :

- REA COMPOSITION COMPLETED AND TO WORD PROCESSING ON 1 DECEMBER.
  - MANAGEMENT REVIEW OF FINAL DRAFT OF REA TEXT ON 9 DECEMBER.
  - REA TEXT/EXHIBIT ASSEMBLY ON 6 DECEMBER.
  - REA SUBMITTAL TO GOV'T. ON 7 DECEMBER.
- \* OUR PLAN IS TO FOLLOW UP WITH GOV'T. AFTER ALLOWING TWO WEEK REVIEW PERIOD & PRESS FOR A NEGOTIATED SETTLEMENT AND FUNDING

**ATLAS IRON WORKS, INC.**  
**COST VS ESTIMATE REPORT**

**Date** 2/4/83

COST VS ESTIMATE

7408  
Job #3408/4408/ THE ATLAS COMPANIES

Name of Company Olympia & York  
Job Description Koin Center  
Starting Date Sept. 29, 1981  
Est'd Completion Date Dec 10, 1982

Contract Price \$3,761,561  
Change Orders <162,086>  
Change Notifications 24,368  
Revised Fixed Price 3,623,843  
Billings to date 3,537,327

Report Dated 2-4-83  
Thru # 3  
Thru # 19  
Thru January  
Tons Estimated \_\_\_\_\_  
Tons Fabricated \_\_\_\_\_  
Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs <u>S.T.</u>	42,143	594	248	<36>	42,949	42,068	881
<u>O.T.</u>						1,438	<1,438>
Payroll Burden %	1,235,447	27,311	4,684		1,267,442	1,444,842	<177,400>
Overhead %	1,897,714	5,513	8,704	25,670	1,937,641	1,906,564	31,077
G & A %	4,412	9,040			13,452	10,183	3,269
Labor \$ <u>623,424</u>							
P/R Burden <u>257,304</u>	32,769				32,769	13,173	19,596
Overhead <u>318,061</u>	71,983	24,545			96,528	96,592	<64>
G & A <u>246,053</u>	77,829			<33,670>	44,159	39,251	4,908
Steel Purchases <u>1,721,655</u>				8,000	8,000	2,900	5,100
Other Purchases <u>43,717</u>	305,504	<246,749>			58,755	53,143	5,612
Fasteners <u>31,942</u>							
P.O. Freight <u>24,336</u>	16,355				16,355		16,355
Stores <u>84,914</u>							
N.C. Stores (Memo Only) <u>&lt;3,131&gt;</u>							
Total	3,642,013	<180,340>	13,428		3,475,101	3,566,648	91,547

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T..	42,068			42,587	594	248		43,429
Hours O.T.	1,438							
Total Labor	1,444,842			1,275,808	25,920	11,658		1,313,386
Total Purchases	1,897,168			1,960,631	4,577	11,106		1,976,314
Mileage/Subsistence	10,183			4,555	10,000			14,555
Non-reimburse								
Outgoing Frt.	13,173			33,848				33,848
Detailing	96,592			74,547	25,142	1,604		101,293
Miscellaneous	39,251			80,351				80,351
Subcontract	2,900							
Rental	52,558			315,466	<227,725>			87,741
Paint								
Tax & Bond				16,355				16,355
Total	3,556,667			3,761,561	<162,086>	24,368		3,623,843

Actual Labor Costs S.T.  
O.T.  
Steel Purchases 1,716,981  
Other Purchases 41,710  
Fasteners 29,230  
P.O. Freight 24,333  
Stores 84,914  
N.C. Stores (Memo Only) <3,131>  
Profit @ Completion \_\_\_\_\_  
Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

COST VS ESTIMATE

Job # 3408 THE ATLAS COMPANIES

Name of Company Olympia & York  
Job Description KOIN Center  
Starting Date Sept. 29,1981  
Est'd Completion Date Dec. 10, 1982

Contract Price 2,745,888  
Change Orders 43,050  
Change Notifications 18,265  
Revised Fixed Price 2,807,203  
Billings to date  
Thru # 3  
Thru # 19  
Thru

Report Dated 2-11-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

6340		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.	24,011	451	126	341	24,929	27,193	<2,264>
	O.T.						606	<606>
Payroll Burden %	45.5	672,352	14,731	2,294	10,556	699,933	923,019	<223,086>
Overhead %	110.	1,897,714	5,513	8,744		1,911,971	1,864,054	47,917
G & A %	98.6							
Labor \$	329,465							
P/R Burden	138,281							
Overhead	270,332	71,983	20,545			96,528	60	<60>
G & A	184,941						96,592	<64>
							17,921	<17,921>
Steel Purchases	1,719,012						2,150	<2,150>
Other Purchases	6,266						30,161	<30,161>
Fasteners	31,942							
P.O. Freight	24,016	16,355				16,355		16,355
Stores	82,818							
N.C. Stores (Memo Only)	<3,131>	2,658,404	44,789	11,038	10,556	2,724,787	2,933,957	<209,170>
Total								

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.	27,193			24,011	451	126		24,588
	Hours O.T.	606							
	Total Labor	923,019			694,355	13,331	5,555		713,241
	Total Purchases	1,855,979			1,960,631	7,577	11,106		1,976,314
	Mileage/Subsistence								
	Non-reimburse								
	Outgoing Frt.	60							
	Detailing	96,592			74,547	25,142	1,604		101,293
	Miscellaneous	17,921							
	Subcontract	2,150							
	Rental	30,161							
	Paint								
	Tax & Bond				16,355				16,355
	Total	2,925,882			2,745,888	43,050	18,265		2,807,203

Actual Labor Costs 38.00 S.T.  
O.T.  
Steel Purchases 1,714,338  
Other Purchases 5,580  
Fasteners 29,230  
P.O. Freight 24,013  
Stores 82,818  
N.C. Stores (Memo Only) <3,131>  
Profit @ Completion  
Profit To Date

COMMENTS:

COST VS ESTIMATE

Job # 4408 THE ATLAS COMPANIES

Name of Company Olympia & York

Job Description KOIN Center

Starting Date Sept. 29,1981

Est'd Completion Date Dec. 10, 1982

Contract Price 33,848

Change Orders -

Change Notifications -

Revised Fixed Price

Billings to date

Thru # 3

Thru # 19

Thru

Report Dated 2-4-82

Tons Estimated

Tons Fabricated

Tons Shipped & Erected

174	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T.						563	<563>
O.T.						34	<34>
Payroll Burden % 45.5						20,356	<20,356>
Overhead % 110.0						834	<834>
G & A % 98.6							
Labor \$ 7,529							
P/R Burden 3,328	32,769				32,769	12,893	19,876
Overhead 5,593							
G & A 3,906						277	<277>
Steel Purchases							
Other Purchases							
Fasteners							
P.O. Freight							
Stores 834							
N.C. Stores (Memo Only)							
Total	32,769				32,769	34,360	<1,591>

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.	563							
Hours O.T.	34							
Total Labor	20,356							
Total Purchases	834							
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.	12,893			33,848				33,848
Detailing								
Miscellaneous	277							
Subcontract								
Rental								
Paint								
Tax & Bond								
Total				33,848				33,848

Actual Labor Costs 38.00 S.T.

O.T.

Steel Purchases

Other Purchases

Fasteners

P.O. Freight

Stores 834

N.C. Stores (Memo Only)

Profit @ Completion

Profit To Date

COMMENTS:

COST VS ESTIMATE

Job # 7408 THE ATLAS COMPANIES

Name of Company Olympia & York  
Job Description KOIN Center  
Starting Date Sept. 29, 1982  
Est'd Completion Date Dec. 10, 1982

Contract Price 981,825  
Change Orders <205,136>  
Change Notifications 6,103  
Revised Fixed Price 782,792  
Billings to date  
Thru # 7  
Thru # 19  
Thru

Report Dated 2-4-82  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

4,197		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.	18,132	143	122	<377>	18,020	14,312	3,708
	O.T.						798	<798>
Payroll Burden %	39.5	Total Labor	563,095	12,580	2,390	<10,556>	567,509	501,467
Overhead %	47.0	Total Purchases				25,670	25,670	41,676
G & A %	80.5	Mileage/Subsistence	4,412	9,040			13,452	10,183
Labor \$	286,430	Non-reimburse						
P/R Burden	115,695	Outgoing Frt.					220	<220>
Overhead	42,136	Detailing						
G & A	57,206	Miscellaneous	77,829		<25,670>	52,159	21,053	31,106
Steel Purchases	2,643	Subcontract					750	<750>
Other Purchases	37,451	Rental	305,504	<246,749>		58,755	22,982	35,773
Fasteners		Paint						
P.O. Freight	320	Tax & Bond						
Stores	1,262							
N.C. Stores (Memo Only)		Total	950,840	<225,129>	2,390	<10,556>	717,545	598,331
								119,214

			ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.		14,312			18,132	143	122		18,397
	Hours O.T.		798							
	Total Labor		501,467			581,453	12,589	6,103		600,145
	Total Purchases		40,355			26,440				26,440
Actual Labor Costs	33.00	Mileage/Subsistence	10,183			4,555	10,000			14,555
	O.T.	Non-reimburse								
Steel Purchases	2,643	Outgoing Frt.	220							
Other Purchases	36,130	Detailing								
Fasteners		Miscellaneous	21,053			45,671				45,671
P.O. Freight	320	Subcontract	750			8,240				8,240
Stores	1,262	Rental	22,397			315,466	<227,725>			87,741
N.C. Stores (Memo Only)		Paint								
		Tax & Bond								
Profit @ Completion		Total	596,425			981,825	<205,136>	6,103		782,792

Profit To Date

COMMENTS:

# COST VS ESTIMATE

Job # 3420/4420 THE ATLAS COMPANIES

Name of Company Centric Corporation  
 Job Description Intermountain Power Project  
 Starting Date July 22, 1982  
 Est'd Completion Date Feb. 1983

Contract Price 1,022,292  
 Change Orders \_\_\_\_\_  
 Change Notifications 447,576  
 Revised Fixed Price 1,469,868  
 Billings to date 969,070

Report Dated 2-4-83  
 Tons Estimated \_\_\_\_\_  
 Tons Fabricated \_\_\_\_\_  
 Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____ S.T.	6,718		5,292		12,010	11,135	875
_____ O.T.						117	<117>
Payroll Burden % _____	194,822		184,352		379,174	559,281	<180,107>
Overhead % _____	695,822		195,522	53,968	945,312	830,114	115,198
G & A % _____							
Labor \$ <u>139,381</u>							
P/R Burden <u>68,209</u>	43,040		3,544	2,242	48,826	30,394	18,432
Overhead <u>212,664</u>	6,783		7,746	2,167	16,696	16,135	561
G & A <u>139,027</u>							
Steel Purchases <u>702,842</u>						5,135	<5,135>
Other Purchases <u>7,105</u>						164	<164>
Fasteners <u>8,208</u>	3,366		1,271		4,637	7,850	<3,213>
P.O. Freight <u>47,841</u>	43,667		20,298	2,679	66,644		66,644
Stores <u>64,118</u>							
N.C. Stores (Memo Only) _____							
<b>Total</b>	987,500		412,733	61,056	1,461,289	1,449,073	12,216

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.	11,135			6,718		5,292		12,010
Hours O.T.	117							
Total Labor	559,281					190,512		190,512
Total Purchases	676,716			975,935		221,474		1,197,409
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.	33,686					5,410		5,410
Detailing	16,135					8,524		8,524
Miscellaneous	4,793							
Subcontract	4,794							
Rental	164							
Paint	4925					1,358		1,358
Tax & Bond				446,357		20,298		66,655
<b>Total</b>	1,300,494			1,022,292		447,576		1,469,868

Actual Labor Costs 38.00 S.T.  
 \_\_\_\_\_ O.T.  
 Steel Purchases 550,604  
 Other Purchases 5,525  
 Fasteners 6,503  
 P.O. Freight 49,966  
 Stores 64,118  
 N.C. Stores (Memo Only) \_\_\_\_\_  
 Profit @ Completion \_\_\_\_\_  
 Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_



# COST VS ESTIMATE

Job # 3420 THE ATLAS COMPANIES  
 Name of Company Centric Corporation  
 Job Description Intermountain Power Project  
 Starting Date July 22, 1982  
 Est'd Completion Date Feb. 1983

Contract Price 1,022,292  
 Change Orders \_\_\_\_\_  
 Change Notifications 442,253  
 Revised Fixed Price 1,464,545  
 Billings to date \_\_\_\_\_

Thru # \_\_\_\_\_  
 Thru # 16  
 Thru \_\_\_\_\_

Report Dated 2-4-83  
 Tons Estimated \_\_\_\_\_  
 Tons Fabricated \_\_\_\_\_  
 Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____ S.T. _____ O.T.	6,718		5,292		12,010	11,128	882
Payroll Burden % <u>45.5</u>	194,822		184,352		379,174	559,089	<179,915>
Overhead % <u>110.0</u>	694,302		195,522	53,888	943,712	830,114	113,598
G & A % <u>98.6</u>							
Labor \$ <u>139,303</u>							
P/R Burden <u>68,175</u>	3,300		79	150	3,529	10	3,519
Overhead <u>212,618</u>	6,783		7,746	2,167	16,696	16,135	561
G & A <u>138,993</u>						4,793	<4,793>
Steel Purchases <u>702,842</u>						5,135	<5,135>
Other Purchases <u>7,105</u>						164	<164>
Fasteners <u>8,208</u>						7,850	<3,213>
P.O. Freight <u>47,841</u>							66,644
Stores <u>64,118</u>							
N.C. Stores (Memo Only) _____							
Total	946,240		409,268	58,884	1,414,392	1,423,290	8,898

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.	11,128			6,718		5,292		12,010
Hours O.T.	117							
Total Labor	559,089					190,512		190,512
Total Purchases	676,716			975,935		221,474		1,197,409
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.	1,107					87		87
Detailing	16,135					8,524		8,524
Miscellaneous	4,793							
Subcontract	4,794							
Rental	164							
Paint	4,925					1,358		1,358
Tax & Bond				46,357		20,298		66,655
Total	1,267,723			1,022,292		442,253		1,464,545

Actual Labor Costs 38.00 S.T. \_\_\_\_\_ O.T. \_\_\_\_\_  
 Steel Purchases 550,604  
 Other Purchases 5,525  
 Fasteners 6,503  
 P.O. Freight 49,966  
 Stores 64,118  
 N.C. Stores (Memo Only) \_\_\_\_\_  
 Profit @ Completion \_\_\_\_\_  
 Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

Fr

NWMAR134323

COST VS ESTIMATE

Job # 4420 THE ATLAS COMPANIES  
Name of Company Centric Corporation  
Job Description Intermountain Power Project  
Starting Date July 22, 1982  
Est'd Completion Date Feb. 1983

Contract Price  
Change Orders  
Change Notifications 5323  
Revised Fixed Price 5323  
Billings to date

Thru #  
Thru # 16  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.						7	7
	O.T.							
Payroll Burden %								
Overhead %							192	<192>
G & A %		1,520			80	1,600		1,600
Labor \$	78							
P/R Burden	34	39,740		3,465	2,092	45,297	30,384	14,913
Overhead	46							
G & A	34							
Steel Purchases								
Other Purchases								
Fasteners								
P.O. Freight								
Stores								
N.C. Stores (Memo Only)		41,260		3,465	2,172	46,897	30,576	16,321
	Total							

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.	7							
	Hours O.T.								
	Total Labor	192							
	Total Purchases								
Actual Labor Costs	38 <sup>00</sup> S.T.								
	O.T.								
Steel Purchases							5,323		5,323
Other Purchases		32,579							
Fasteners									
P.O. Freight									
Stores									
N.C. Stores (Memo Only)									
Profit @ Completion									
	Total	32,771					5,323		5,323

Profit To Date

COMMENTS:

Job # 3423,4423,7423 THE ATLAS COMPANIES

# COST VS ESTIMATE

Name of Company D.M. Drake  
Job Description V.A. Hospital, Portland  
Starting Date Oct. 20, 1982  
Est'd Completion Date Nov. 6, 1983

Contract Price \$8,850,000  
Change Orders 2,363  
Change Notifications 141,286  
Revised Fixed Price 8,993,649  
Billings to date 3,455,465

Report Dated 2-4-83  
Thru # 1  
Thru # 21  
Tons Estimated \_\_\_\_\_  
Tons Fabricated \_\_\_\_\_  
Tons Shipped & Erected \_\_\_\_\_  
Thru January

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs <u>S.T.</u>	120,410	5	2,008	<20>	122,403	9,565	112,838
<u>O.T.</u>						10	<10>
Payroll Burden % _____	3,499,542	165	48,254		3,547,961	445,562	3,102,399
Overhead % _____	4,077,317	1,173	40,539		4,119,029	3,378,155	740,874
G & A % _____	63,276				63,276		63,276
Labor \$ <u>117,090</u>							
P/R Burden <u>55,080</u>	58,275		427		58,702		58,702
Overhead <u>155,854</u>	203,768	750	39,701		244,219	217,675	26,544
G & A <u>117,538</u>			138		138	38,718	<38,580>
Steel Purchases <u>2,868,681</u>	1,062,704		2,358		1,065,062	899,295	165,767
Other Purchases <u>2,916</u>	250,907		3,358		254,265	35,970	218,295
Fasteners <u>40,282</u>							
P.O. Freight <u>446,162</u>				28,000	28,000		28,000
Stores <u>20,114</u>							
N.C. Stores (Memo Only) _____	9,215,789	2,088	134,775	28,000	9,380,652	5,015,375	4,365,277
Total							

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T..	9,565			120,410	5	2,007		122,422
Hours O.T.	10							
Total Labor	445,562			3,393,581	115	42,481		3,436,177
Total Purchases	2,803,422			3,920,327	1,423	47,939		3,969,689
Mileage/Subsistence				8,146				8,146
Non-reimburse								
Outgoing Frt.				56,511		470		56,981
Detailing	156,250			197,598	825	43,673		242,096
Miscellaneous	38,718					152		152
Subcontract	10,070			1,030,527		2,594		1,033,121
Rental	2,470			243,310		3,977		247,287
Paint								
Tax & Bond								
Profit @ Completion _____	4,456,492			8,850,000	2,363	141,286		8,993,649
Profit To Date _____								

COMMENTS: \_\_\_\_\_

# COST VS ESTIMATE

Job # 3423 THE ATLAS COMPANIES

Name of Company D.M. Drake  
 Job Description V.A. Hospital, Portland  
 Starting Date Oct. 20, 1982  
 Est'd Completion Date Nov. 6, 1983

Contract Price 6,539,794  
 Change Orders 2,363  
 Change Notifications 118,641  
 Revised Fixed Price 6,660,798  
 Billings to date \_\_\_\_\_

Thru # 1  
 Thru # 21  
 Thru \_\_\_\_\_

Report Dated 2-4-83  
 Tons Estimated \_\_\_\_\_  
 Tons Fabricated \_\_\_\_\_  
 Tons Shipped & Erected \_\_\_\_\_

60,845		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.	56,379	5	1,427	598	58,409	9,565	48,844
	O.T.						10	<10>
Payroll Burden %	45.5	1,578,612	165	29,336	16,740	1,624,853	445,562	1,179,291
Overhead %	110.0	3,993,490	1,173	39,857		4,034,520	3,378,152	656,368
G & A %	98.6							
Labor \$	117,090							
P/R Burden	55,080							
Overhead	155,854	203,768	750	39,701		244,219	217,675	26,544
G & A	117,538			138		138	28,803	<28,665>
Steel Purchases	2,868,681	1,002,704		2,358		1,005,062	899,295	105,767
Other Purchases	2,916						2,470	<2,470>
Fasteners	40,282							
P.O. Freight	446,162				28,000	28,000		28,000
Stores	20,111							
N.C. Stores (Memo Only)								
	Total	6,778,574	2088	111,390	44,740	6,936,792	4,971,957	1,964,835

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.	9,565			56,379	5	1,426		
Hours O.T.	10							
Total Labor	445,562			1,530,814	115	24,342		1,555,271
Total Purchases	2,803,419			3,839,038	1,423	47,880		3,888,341
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.								
Detailing	156,250			197,598	825	43,673		242,096
Miscellaneous	28,803					152		152
Subcontract	10,070			972,344		2,594		974,938
Rental	2,470							
Paint								
Tax & Bond								
Total	3,446,574			6,539,794	2363	118,641		6,660,798

Actual Labor Costs 38<sup>00</sup> S.T.  
 O.T.  
 Steel Purchases 2,333,573  
 Other Purchases 3,520  
 Fasteners 228  
 P.O. Freight 445,987  
 Stores 20,111  
 N.C. Stores (Memo Only) \_\_\_\_\_  
 Profit @ Completion \_\_\_\_\_  
 Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

COST VS ESTIMATE

Job # 4423 THE ATLAS COMPANIES

Name of Company Donald M. Drake Co.  
Job Description V.A. Hospital, Portland  
Starting Date Oct. 20, 1982  
Est'd Completion Date Nov. 6, 1983

Contract Price 56,511  
Change Orders  
Change Notifications 458  
Revised Fixed Price 56,969  
Billings to date  
Thru # 1  
Thru # 21  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.							
	O.T.							
Payroll Burden %								
Overhead %								
G & A %							3	<3>
Labor \$								
P/R Burden		58,275		427		58,702		58,702
Overhead								
G & A								
Steel Purchases								
Other Purchases								
Fasteners								
P.O. Freight								
Stores	3							
N.C. Stores (Memo Only)		58,275		427		58,702	3	58,699
Total								

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.								
	Hours O.T.								
	Total Labor								
	Total Purchases	3							
Actual Labor Costs	38 <sup>00</sup> S.T.								
	O.T.								
Steel Purchases					56,511		470		56,981
Other Purchases									
Fasteners									
P.O. Freight									
Stores	3								
N.C. Stores (Memo Only)									
Profit @ Completion					56,511		470		56,981
Total		3							

Profit To Date

COMMENTS:

COST VS ESTIMATE

Job # 7423 THE ATLAS COMPANIES

Name of Company D.M. Drake

Job Description V.A. Hospital, Portland

Starting Date Oct. 20, 1982

Est'd Completion Date Nov. 6, 1983

Contract Price 2,253,695

Change Orders

Change Notifications 22,175

Revised Fixed Price 2,275,870

Billings to date

Thru # 1

Thru # 21

Thru

Report Dated 2-4-83

Tons Estimated

Tons Fabricated

Tons Shipped & Erected

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T.	64,031		581	<558>	64,054		
O.T.							
Payroll Burden %	1,920,930		18,918	<16,740>	1,923,108		1,923,108
Overhead %	83,827		682		84,509		84,509
G & A %	63,276				63,276		63,276
Labor \$							
P/R Burden							
Overhead							
G & A						9,915	<9,915>
Steel Purchases	60,000				60,000		60,000
Other Purchases	250,907		3,358		254,265	33,500	220,765
Fasteners							
P.O. Freight							
Stores							
N.C. Stores (Memo Only)	2,378,940		22,958	<16,740>	2,385,158	43,415	2,341,743
Total							

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				64,031		581		64,612
Hours O.T.								
Total Labor				1,862,767		18,139		1,880,906
Total Purchases				81,289		59		81,348
Mileage/Subsistence				8,146				8,146
Non-reimburse								
Outgoing Frt.								
Detailing								
Miscellaneous	9,915							
Subcontract				58,183				58,183
Rental				243,310		3,977		247,287
Paint								
Tax & Bond								
Total	9,915			2,253,695		22,175		2,275,870

Actual Labor Costs 33<sup>00</sup> S.T.

O.T.

Steel Purchases

Other Purchases

Fasteners

P.O. Freight

Stores

N.C. Stores (Memo Only)

Profit @ Completion

Profit To Date

COMMENTS:

# COST VS ESTIMATE

Job #426/4426/7426 THE ATLAS COMPANIES

Name of Company McBro  
 Job Description St. Joseph Hospital  
 Starting Date Nov. 2, 1982  
 Est'd Completion Date June 21, 1983

Contract Price \$1,344,822  
 Change Orders 2636  
 Change Notifications \_\_\_\_\_  
 Revised Fixed Price 1,347,458  
 Billings to date 48609

Report Dated 2-4-83  
 Tons Estimated \_\_\_\_\_  
 Tons Fabricated \_\_\_\_\_  
 Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____ S.T. _____ O.T.	16,179		34		16,213	181	16,032
Payroll Burden % _____						6	<6>
Overhead % _____	496,384		1086	<1,500>	495,970	8,358	487,612
G & A % _____	650,073		767	<125,425>	525,415	418,520	106,895
Labor \$ <u>2,154</u>	1,280				1,280		1,280
P/R Burden <u>1,036</u>							
Overhead <u>3,122</u>	20,121		26		20,147	141	20,006
G & A <u>2,046</u>	40,940		265	<13,440>	27,765	27,937	<172>
Steel Purchases <u>412,986</u>	8,582				8,582	9,778	<1,196>
Other Purchases <u>72</u>	113,240			120,905	234,145	232,440	1,705
Fasteners <u>4,512</u>	69,213		207		69,420		69,420
P.O. Freight _____							
Stores <u>950</u>							
N.C. Stores (Memo Only) _____							
<b>Total</b>	1,399,833		2,351	<19,460>	1,382,724	697,174	685,550

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T. _____	181			16,179		34		16,213
Hours O.T. _____	6							
Total Labor _____	8,358			482,678		1,244		483,922
Total Purchases _____	5,498			508,469		844		509,313
Mileage/Subsistence _____				1,261				1,261
Non-reimburse _____								
Outgoing Frt. _____	141			19,315		29		19,344
Detailing _____	24,765			26,639		292		26,931
Miscellaneous _____	9,778			8,340				8,340
Subcontract _____	4,700			229,939				229,939
Rental _____				68,181		227		68,408
Paint _____								
Tax & Bond _____								
<b>Total</b>	53,240			1,344,822		2,636		1,347,458

Profit @ Completion \_\_\_\_\_  
 Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

COST VS ESTIMATE

Job # 3426 THE ATLAS COMPANIES

Name of Company McBro  
Job Description St. Joseph Hospital  
Starting Date Nov. 2, 1982  
Est'd Completion Date June 21, 1983

Contract Price 854,524  
Change Orders 2,000  
Change Notifications  
Revised Fixed Price 856,524  
Billings to date  
Thru #  
Thru #  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T. 921	9,722		24		9,746	181	9,565
O.T.						6	<6>
Payroll Burden % 45.5	295,924		792	<1,500>	295,216	8,358	286,858
Overhead % 110.0	509,498		767		510,265	418,520	91,745
G & A % 98.6							
Labor \$ 2,154							
P/R Burden 1,036							
Overhead 3,122	40,940		265	<13,440>	27,765	27,937	<172>
G & A 2,046	5,902			1,080	6,482	9,768	<2,786>
Steel Purchases 412,986	36,740			7,000	43,740	42,240	1,500
Other Purchases 72							
Fasteners 4,512							
P.O. Freight							
Stores 950							
N.C. Stores (Memo Only)							
Total	889,004		1,824	<6,860>	883,968	506,823	377,145

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.	181			9,722		24		9,746
Hours O.T.	6							
Total Labor	8,358			285,205		864		286,069
Total Purchases	5,498			493,545		844		494,389
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.								
Detailing	24,765			26,639		292		26,931
Miscellaneous	9,768			6,764				6,764
Subcontract	4,700			42,371				42,371
Rental								
Paint								
Tax & Bond								
Total	53,089			854,524		2,000		856,524

Actual Labor Costs 38<sup>00</sup> S.T.  
O.T.  
Steel Purchases  
Other Purchases  
Fasteners 4,512  
P.O. Freight 36  
Stores 950  
N.C. Stores (Memo Only)  
Profit @ Completion  
Profit To Date

COMMENTS:



COST VS ESTIMATE

Job.# 4426 THE ATLAS COMPANIES

Name of Company McBro

Job Description St. Joseph Hospital

Starting Date Nov. 2, 1982

Est'd Completion Date June 21, 1983

Contract Price 19,315

Change Orders \_\_\_\_\_

Change Notifications 29

Revised Fixed Price 19,344

Billings to date \_\_\_\_\_

Thru # \_\_\_\_\_

Thru # 1

Thru \_\_\_\_\_

Report Dated 2-4-83

Tons Estimated \_\_\_\_\_

Tons Fabricated \_\_\_\_\_

Tons Shipped & Erected \_\_\_\_\_

		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____	S.T.							
	O.T.							
Payroll Burden % _____								
Overhead % _____								
G & A % _____								
Labor \$ _____								
P/R Burden _____		20,121		26		20147	141	20006
Overhead _____								
G & A _____							10	10
Steel Purchases _____								
Other Purchases _____								
Fasteners _____								
P.O. Freight _____								
Stores _____								
N.C. Stores (Memo Only) _____	Total	20,121		26		20147	151	20016

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.								
	Hours O.T.								
	Total Labor								
	Total Purchases								
Actual Labor Costs <u>38<sup>00</sup></u>	S.T.				19,315		29		19,344
	O.T.								
Steel Purchases _____		141							
Other Purchases _____									
Fasteners _____		10							
P.O. Freight _____									
Stores _____									
N.C. Stores (Memo Only) _____									
Profit @ Completion _____	Total	151			19,315		29		19,344

Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

COST VS ESTIMATE

Job # 7426 THE ATLAS COMPANIES  
Name of Company McBro  
Job Description St. Joseph Hospital  
Starting Date Nov. 2, 1982  
Est'd Completion Date June 21, 1982

Contract Price 470,983  
Change Orders  
Change Notifications 607  
Revised Fixed Price 471,590  
Billings to date  
Thru #  
Thru # 1  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T. Hours S.T.	6,457		10		6,467		
O.T. Hours O.T.							
Payroll Burden %	200,460		294		200,754		200,754
Overhead %	140,575			<125,425>	15,150		15,150
G & A %	1,280				1,280		1,280
Labor \$							
P/R Burden							
Overhead							
G & A	2,680			<1,080>	1,600		1,600
Steel Purchases	76,500			113,905	190,405	190,200	205
Other Purchases	69,213		207		69,420		69,420
Fasteners							
P.O. Freight							
Stores							
N.C. Stores (Memo Only)							
Total	490,708		501	<12,600>	478,609	190,200	478,609

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				6,457		10		6,467
Hours O.T.								
Total Labor				197,473		380		197,853
Total Purchases				14,924				14,924
Mileage/Subsistence				1,261				1,261
Non-reimburse								
Outgoing Frt.								
Detailing								
Miscellaneous				1,576				1,576
Subcontract				187,568				187,568
Rental				68,181		227		68,408
Paint								
Tax & Bond								
Total				470,983		607		471,590

Actual Labor Costs 30<sup>00</sup> S.T.  
O.T.  
Steel Purchases  
Other Purchases  
Fasteners  
P.O. Freight  
Stores  
N.C. Stores (Memo Only)  
Profit @ Completion  
Profit To Date

COMMENTS:

COST VS ESTIMATE

Job # 3427,4427,7427 THE ATLAS COMPANIES

Name of Company R D M Contractors  
Job Description Chemawa Bridge  
Starting Date Feb. 1, 1983  
Est'd Completion Date Aug. 1, 1983

Contract Price 183,500  
Change Orders  
Change Notifications  
Revised Fixed Price  
Billings to date

Report Dated 2-4-83  
Tons Estimated 134  
Tons Fabricated  
Tons Shipped & Erected

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T. Hours S.T..	2,515			* 19	2,534		
O.T. Hours O.T.							
Payroll Burden %	73,405			551	73,956		73,956
Overhead %	102,095				102,095	1,372	100,723
G & A %	500				500		500
Labor \$							
P/R Burden	2,416				2,416		2,416
Overhead	4,000				4,000	4,800	<800>
G & A	286			1,004	1,290		1,290
Steel Purchases 1,372							
Other Purchases	7,840				7,840		7,840
Fasteners							
P.O. Freight							
Stores							
N.C. Stores (Memo Only)							
Total	190,542			1,555	192,097	6,172	185,925

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				2,515				
Hours O.T.								
Total Labor				71,450				
Total Purchases				112,050				
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.								
Detailing								
Miscellaneous								
Subcontract								
Rental								
Paint								
Tax & Bond								
Total				183,500				

Profit @ Completion

Profit To Date

COMMENTS:

COST VS ESTIMATE

Job # 3427 THE ATLAS COMPANIES  
Name of Company R D M Contractors  
Job Description Chemawa Bridge  
Starting Date Feb. 1, 1983  
Est'd Completion Date Aug. 1, 1983

Contract Price 170,000  
Change Orders  
Change Notifications  
Revised Fixed Price  
Billings to date  
Thru #  
Thru #  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	29.00 S.T. O.T.	2,280			* 19	2,299		
Payroll Burden %								
Overhead %		66,120			551	66,671		66,671
G & A %		101,771				101,771	1,372	100,399
Labor \$								
P/R Burden								
Overhead		4,000				4,000	4,800	<800>
G & A					1,004	1,004		1,004
Steel Purchases	1,372							
Other Purchases								
Fasteners								
P.O. Freight								
Stores								
N.C. Stores (Memo Only)								
	Total	171,891			1,555	173,446	6,172	167,274

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.				2,280				
	Hours O.T.								
	Total Labor				65,393				
	Total Purchases				104,607				
Actual Labor Costs	38.00 S.T. O.T.								
Steel Purchases									
Other Purchases									
Fasteners									
P.O. Freight									
Stores									
N.C. Stores (Memo Only)									
	Total				170,000				

Profit @ Completion

Profit To Date

COMMENTS: \* Includes curb flashing cost not estimated.

COST VS ESTIMATE

Job.# 4427 THE ATLAS COMPANIES

Name of Company R D M Contractors  
Job Description Chemawa Bridge  
Starting Date Feb. 1, 1983  
Est'd Completion Date Aug, 1, 1983

Contract Price  
Change Orders  
Change Notifications  
Revised Fixed Price  
Billings to date

Thru #  
Thru #  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

		ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs	S.T.							
	O.T.							
Payroll Burden %								
Overhead %								
G & A %								
Labor \$								
P/R Burden		2,416						
Overhead								
G & A								
Steel Purchases								
Other Purchases								
Fasteners								
P.O. Freight								
Stores								
N.C. Stores (Memo Only)		2,416						
	Total							

		ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
	Hours S.T.								
	Hours O.T.								
	Total Labor								
	Total Purchases								
Actual Labor Costs	S.T.								
	O.T.								
Steel Purchases									
Other Purchases									
Fasteners									
P.O. Freight									
Stores									
N.C. Stores (Memo Only)									
	Tax & Bond								
Profit @ Completion	Total								

Profit To Date

COMMENTS:

# COST VS ESTIMATE

Job.# 7427 THE ATLAS COMPANIES

Name of Company R D M Contractors

Job Description Chemawa Bridge

Starting Date Feb. 1, 1983

Est'd Completion Date Aug. 1, 1983

Contract Price 13,500

Change Orders \_\_\_\_\_

Change Notifications \_\_\_\_\_

Revised Fixed Price \_\_\_\_\_

Billings to date \_\_\_\_\_

Thru # \_\_\_\_\_

Thru # \_\_\_\_\_

Thru \_\_\_\_\_

Report Dated \_\_\_\_\_

Tons Estimated \_\_\_\_\_

Tons Fabricated \_\_\_\_\_

Tons Shipped & Erected \_\_\_\_\_

2-4-83

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs <u>31.00</u> S.T.	235						
_____ O.T.							
Payroll Burden % _____	7,285						
Overhead % _____	324						
G & A % _____	500						
Labor \$ _____							
P/R Burden _____							
Overhead _____							
G & A _____	286						
Steel Purchases _____							
Other Purchases _____	7,840						
Fasteners _____							
P.O. Freight _____							
Stores _____							
N.C. Stores (Memo Only) _____							
<b>Total</b>	16,235						

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				235				
Hours O.T.								
Total Labor				6,057				
Total Purchases				7,443				
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.								
Detailing								
Miscellaneous								
Subcontract								
Rental								
Paint								
Tax & Bond								
<b>Total</b>				13,500				

Profit @ Completion \_\_\_\_\_

Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

**COST VS ESTIMATE**  
G/M or T & M

Job # 3428/4428 THE ATLAS COMPANIES

Name of Company Wright Schuchart  
Job Description W/S/T Plant  
Starting Date 1/7/83  
Est'd Completion Date 2/28/83

Contract Price \$88,000  
Change Orders \_\_\_\_\_  
Change Notifications 2,427  
Revised Fixed Price \_\_\_\_\_  
Billings to date \_\_\_\_\_

Thru # \_\_\_\_\_  
Thru # 1  
Thru \_\_\_\_\_

Report Dated 2-4-83  
Tons Estimated \_\_\_\_\_  
Tons Fabricated \_\_\_\_\_  
Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____ S.T. _____ O.T.	748		65		813		
Payroll Burden % _____							
Overhead % _____	21,692		2,470		24,162		24,162
G & A % _____	66,620		245		66,865	29,474	37,391
Labor \$ _____							
P/R Burden _____							
Overhead _____	1,030				1,030		1,030
G & A _____	1,978				1,978	2,118	<140>
Steel Purchases <u>29,474</u>							
Other Purchases _____						19,002	<19,000>
Fasteners _____							
P.O. Freight _____	6,941				6,941		6,941
Stores _____							
N.C. Stores (Memo Only) _____							
Total	98,261		2,715		100,976	50,592	50,384

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				748		65		
Hours O.T.								
Total Labor				19,414		1,958		
Total Purchases				59,625		309		
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.				922		10		
Detailing	2,118			1,770		150		
Miscellaneous								
Subcontract	44							
Rental								
Paint				6,269				
Tax & Bond								
Total				88,000		2,427		

Profit @ Completion \_\_\_\_\_  
Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_

Job # 3428 THE ATLAS COMPANIES

## COST VS ESTIMATE

G/M or T &amp; M

Name of Company Wright Schuchart  
Job Description W/S/T Plant  
Starting Date 1/7/83  
Est'd Completion Date 2/28/83

Contract Price 87,078  
Change Orders \_\_\_\_\_  
Change Notifications 2,417  
Revised Fixed Price \_\_\_\_\_  
Billings to date \_\_\_\_\_

Thru # \_\_\_\_\_  
Thru # 1  
Thru \_\_\_\_\_

Report Dated 2-4-83  
Tons Estimated \_\_\_\_\_  
Tons Fabricated \_\_\_\_\_  
Tons Shipped & Erected \_\_\_\_\_

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs _____ S.T.	748		65		813		
_____ O.T.							
Payroll Burden % _____	21,692		2,470		24,162		24,162
Overhead % _____	66,620		245		66,865	29,474	37,391
G & A % _____							
Labor \$ _____							
P/R Burden _____							
Overhead _____	1,978				1,978	2,118	<140>
G & A _____						44	<44>
Steel Purchases <u>29,474</u>						14,000	<19,000>
Other Purchases _____							
Fasteners _____	6,941				6,941		6,941
P.O. Freight _____							
Stores _____							
N.C. Stores (Memo Only) _____	97,231		2,715		99,946	50,636	49,310
Total							

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.				748		65		
Hours O.T.								
Total Labor				19,414		1,958		
Total Purchases				59,625		309		
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.								
Detailing	2,118			1,770		150		
Miscellaneous	44							
Subcontract								
Rental								
Paint				6,269				
Tax & Bond								
Total				87,078		2,417		

Actual Labor Costs 38<sup>00</sup> S.T.  
\_\_\_\_\_ O.T.  
Steel Purchases \_\_\_\_\_  
Other Purchases \_\_\_\_\_  
Fasteners \_\_\_\_\_  
P.O. Freight \_\_\_\_\_  
Stores \_\_\_\_\_  
N.C. Stores (Memo Only) \_\_\_\_\_  
Profit @ Completion \_\_\_\_\_  
Profit To Date \_\_\_\_\_

COMMENTS: \_\_\_\_\_



Job # 4428 THE ATLAS COMPANIES

Name of Company Wright Schuchart  
Job Description W/S/T Plant  
Starting Date 1/7/83  
Est'd Completion Date 2/28/83

COST VS ESTIMATE  
G/M or T & M

Contract Price 922  
Change Orders  
Change Notifications 10  
Revised Fixed Price  
Billings to date  
Thru #  
Thru # 1  
Thru

Report Dated 2-4-83  
Tons Estimated  
Tons Fabricated  
Tons Shipped & Erected

	ORIGINAL ESTIMATED COST	CHANGE ORDERS	CHANGE NOTIFICATION	OTHER ADJ. TO ESTIMATED	REVISED ESTIMATED COSTS	COMMITTED COSTS	DIFFERENCE
Estimated Labor Costs S.T.							
O.T.							
Hours S.T.							
Hours O.T.							
Payroll Burden %							
Overhead %							
G & A %							
Total Labor							
Total Purchases							
Mileage/Subsistence							
Non-reimburse							
Labor \$							
P/R Burden							
Outgoing Frt.	1,030						
Overhead							
Detailing							
G & A							
Miscellaneous							
Subcontract							
Steel Purchases							
Rental							
Other Purchases							
Paint							
Fasteners							
Tax & Bond							
P.O. Freight							
Stores							
N.C. Stores (Memo Only)							
Total	1,030						

	ACTUAL COSTS TO-DATE	% COMPLETE	ESTIMATED COST AT COMPLETION	ORIGINAL SELL	CHANGE ORDERS	CHANGE NOTIFICATIONS	OTHER ADJ. TO SELL	REVISED SELL
Hours S.T.								
Hours O.T.								
Total Labor								
Total Purchases								
Mileage/Subsistence								
Non-reimburse								
Outgoing Frt.				922		10		
Detailing								
Miscellaneous								
Subcontract								
Steel Purchases								
Rental								
Other Purchases								
Paint								
Fasteners								
Tax & Bond								
P.O. Freight								
Stores								
N.C. Stores (Memo Only)								
Total				922		10		

Actual Labor Costs 38.00 S.T.  
O.T.  
Steel Purchases  
Other Purchases  
Fasteners  
P.O. Freight  
Stores  
N.C. Stores (Memo Only)  
Profit @ Completion  
Profit To Date

COMMENTS:

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VEND NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0132			86911	YOUNG & ROEHR INC	10977	04-30-80	C	05-80		99		1,687.82	
0132			86911	YOUNG & ROEHR INC	10741	03-13-80	C	05-80		70		2,189.09	
0132			86911	YOUNG & ROEHR INC	CM-365	04-16-80	C	05-80		70		637.00-	
0132			86911	YOUNG & ROEHR INC	11061	06-06-80	C	05-80		99		2,283.06	
0132			86911	YOUNG & ROEHR INC	11069	06-02-80	C	05-80		99		7,302.06	
ACCOUNT TOTAL *****												17,822.56	
0134			48445	MARSH & MCLENNAN INC	46434	05-28-80	C	05-80		99		115.00	
ACCOUNT TOTAL *****												115.00	
0135			03937	AMERICAN INTERNATL CO	9007455	05-28-80	C	05-80		99		214.98	
0135			44800	LANE-MILES STANDISH CO	C9273	04-17-80	A	05-80	05-06-80	99		51.20	
0135			48445	MARSH & MCLENNAN INC	46434	05-28-80	C	05-80		99		368.00	
0135			57055	OREGON DENTAL SERVICE	308900	05-09-80	C	05-80		99		1,537.73	
0135			72630	STANDARD INS CO	30852101	05-01-80	C	05-80		99		1,458.60	
0135			80330	U S POSTMASTER	00F1900	05-12-80	C	05-80		99		20.24	
0135			86911	YOUNG & ROEHR INC	10972	04-30-80	C	05-80		99		673.35	
0135			86911	YOUNG & ROEHR INC	11062	06-02-80	C	05-80		99		208.08	
0135			86911	YOUNG & ROEHR INC	11070	06-02-80	C	05-80		99		799.39	
ACCOUNT TOTAL *****												5,331.57	
0136			44800	LANE-MILES STANDISH CO	C9188	05-02-80	C	05-80		10	47745	257.05	
0136			44800	LANE-MILES STANDISH CO	C9273	04-23-80	P	05-80		10	47899	176.00	
0136			03937	AMERICAN INTERNATL CO	9007455	05-28-80	C	05-80		99		173.59	
0136			11755	BLDG MATL DLRS ASSN	347	04-22-80	C	05-80		99		16.00	
0136			22381	DISTRICT COURT	YAG1391495	05-14-80	C	05-80		99		30.00	
0136			24175	ESIS INC	053080	05-30-80	C	05-80		99		40.50	
0136			24175	ESIS INC	10610	05-05-80	C	05-80		99		160.00	
0136			32400	RANDY GIACOMAZZI	EXPENSE	05-31-79	C	05-80	05-14-80	50		31.20	
0136			40231	JJF ASSOCIATES INC	SERVICES	05-01-80	C	05-80		70		40.00	
0136			40231	JJF ASSOCIATES INC	BILLING	06-01-80	C	05-80		70		460.00	
0136			42775	KELLY SERVICES INC	E002419501	05-16-80	C	05-80		99		27.84	
0136			43160	KIGHT PHOTOGRAPHY	670	05-20-80	C	05-80		99		40.50	
0136			48445	MARSH & MCLENNAN INC	46434	05-28-80	C	05-80		99		2,545.00	
0136			57055	OREGON DENTAL SERVICE	308900	05-09-80	C	05-80		99		536.84	
0136			70477	SHELL OIL CO	656507738	05-21-80	C	05-80		99		68.93	
0136			72630	STANDARD INS CO	30852101	05-01-80	C	05-80		99		391.07	
0136			80055	UNITED AIRLINES 044131	04413	04-30-80	C	05-80		99		12.00	
0136			80055	UNITED AIRLINES 044131	04413	05-30-80	C	05-80		99		46.00	
0136			80055	UNITED AIRLINES 044131	075	02-26-80	C	05-80		50		33.60	
0136			80330	U S POSTMASTER	00F1900	05-12-80	C	05-80		99		43.49	
0136			86911	YOUNG & ROEHR INC	10971	04-30-80	C	05-80		99		33.70	
0136			86911	YOUNG & ROEHR INC	11063	06-02-80	C	05-80		99		1,058.25	
ACCOUNT TOTAL *****												6,221.56	
0140			03762	AMERICAN BUREAU OF SHPG	346572	04-30-80	P	05-80		10	45923	52.00	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE C	DATA DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0140			03762	AMERICAN BUREAU OF SHPG	34659D	05-14-80	A 05-80		10	45923	20.00	
0140			57354	OREGON STEEL MILLS	85267	05-12-80	C 05-80		20	45923	1,008.24	
0140			84231	WILHELM TRUCKING CO	190897	05-14-80	A 05-80		28	45923	19.84	
0140			60000	PARAMOUNT SUPPLY CO	29989	05-22-80	C 05-80		10	46863	187.66	
0140			10971	RAY BRISTOW CO	114829	05-24-80	C 05-80		10	46919	9.70	
0140			28140	FARWEST STEEL CORP	8928	02-13-80	C 05-80		10	46920	988.79	
0140			10971	RAY BRISTOW CO	111449	04-30-80	C 05-80		10	47284	33.61	
0140			03762	AMERICAN BUREAU OF SHPG	280896	05-20-80	A 05-80		10	47438	46.28	
0140			51466	MITCHELL BROS TRUCK LINE	106631	04-24-80	P 05-80		28	47438	880.50	
0140			80478	US STEEL CORP	29309263	04-26-80	C 05-80		20	47438	9,733.76	
0140			03762	AMERICAN BUREAU OF SHPG	34659D	05-14-80	P 05-80		10	47439	100.00	
0140			57354	OREGON STEEL MILLS	82811	04-07-80	P 05-80		20	47439	1,054.65	
0140			57354	OREGON STEEL MILLS	84506	04-30-80	P 05-80		20	47439	1,451.63	
0140			57354	OREGON STEEL MILLS	84507	04-30-80	P 05-80		20	47439	3,521.34	
0140			57354	OREGON STEEL MILLS	CM-41709	04-30-80	P 05-80		20	47439	10.84-	
0140			57354	OREGON STEEL MILLS	84923	05-06-80	P 05-80		20	47439	855.46	
0140			84231	WILHELM TRUCKING CO	190468	05-02-80	P 05-80		28	47439	111.34	
0140			84231	WILHELM TRUCKING CO	190864	05-13-80	P 05-80		28	47439	16.72	
0140			10971	RAY BRISTOW CO	114457	05-21-80	C 05-80		10	47493	45.50	
0140			04470	AMERICAN STEEL	DAF17B19	04-01-80	A 05-80	05-06-80	10	47786	479.69	
0140			64135	R B I INC	5209	04-16-80	C 05-80		10	47823	318.82	
0140			57354	OREGON STEEL MILLS	84168	04-25-80	P 05-80		20	47824	9,627.48	
0140			57354	OREGON STEEL MILLS	84325	04-28-80	P 05-80		20	47824	2,927.17	
0140			57354	OREGON STEEL MILLS	84326	04-28-80	P 05-80		20	47824	6,498.75	
0140			57354	OREGON STEEL MILLS	84508	04-30-80	P 05-80		20	47824	3,440.69	
0140			57354	OREGON STEEL MILLS	84924	05-06-80	P 05-80		20	47824	764.61	
0140			57354	OREGON STEEL MILLS	84925	05-06-80	P 05-80		20	47824	7,604.09	
0140			57354	OREGON STEEL MILLS	85266	05-12-80	P 05-80		20	47824	8,051.45	
0140			84231	WILHELM TRUCKING CO	190467	05-02-80	P 05-80		28	47824	114.07	
0140			84231	WILHELM TRUCKING CO	190468	05-02-80	P 05-80		28	47824	77.18	
0140			84231	WILHELM TRUCKING CO	190303	04-29-80	P 05-80		28	47824	138.90	
0140			84231	WILHELM TRUCKING CO	190864	05-13-80	P 05-80		28	47824	161.87	
0140			84231	WILHELM TRUCKING CO	190897	05-14-80	P 05-80		28	47824	119.06	
0140			51466	MITCHELL BROS TRUCK LINE	107057	05-15-80	A 05-80		28	47825	943.30	
0140			80478	US STEEL CORP	29310117	05-08-80	C 05-80		20	47825	9,627.01	
0140			04470	AMERICAN STEEL	19067	04-11-80	A 05-80	05-21-80	10	47921	1,007.89-	
0140			60176	PARR LUMBER CO	02736	04-08-80	C 05-80		10	47935	91.68	
0140			87000	ZELLERBACK PAPER CO	0572388	04-16-80	A 05-80		10	47944	1,079.29	
0140			87000	ZELLERBACK PAPER CO	CM-042222	04-28-80	A 05-80		10	47944	1,079.29-	
0140			64135	R B I INC	041680	04-16-80	C 05-80		10	47946	87.45	
0140			04470	AMERICAN STEEL	19067	04-11-80	A 05-80	05-21-80	10	47951	1,007.89	
0140			64135	R B I INC	5547	04-22-80	C 05-80		10	47992	744.40	
0140			64860	RANDALL BEARINGS	5547	04-22-80	C 05-80		10	47992	744.40	
0140			64860	RANDALL BEARINGS	DAF5547	04-22-80	A 05-80	05-07-80	10	47992	744.40-	
0140			72259	STACK STEEL & SUPPLY CO	P09556	05-11-80	C 05-80		10	54034	1,380.13	
0140			70917	SIGNODE CORPORATION	243296	05-07-80	C 05-80		10	54068	1,196.09	
0140			72259	STACK STEEL & SUPPLY CO	P09612	04-25-80	C 05-80		10	54087	277.96	
0140			28140	FARWEST STEEL CORP	24209	04-25-80	C 05-80		10	54228	989.48	
0140			32480	GILMORE STEEL	775221	04-28-80	C 05-80		10	54238	79.45	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C DATE	ADJUST DATE	EX C#	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0140			38450	INDUSTRIAL PRODUCTS	20508	04-30-80	C 05-80		10	54281	327.26	
0140			08445	BEAVER BOLT	2648	04-28-80	C 05-80		10	54293	85.83	
0140			08440	BEARINGS INC	P049920	05-13-80	P 05-80		10	54295	83.30	
0140			08440	BEARINGS INC	P050555	05-21-80	P 05-80		10	54295	93.78	
0140			37220	KEN HUMKE	26637	04-26-80	C 05-80		10	54296	13.50	
0140			50250	METRA STEEL	98028	04-28-80	C 05-80		10	54299	4,302.94	
0140			16938	COAST INDUSTRIAL SUPPLY	85658	04-25-80	C 05-80		10	54303	122.24	
0140			37220	KEN HUMKE	26665	04-28-80	C 05-80		10	54312	24.74	
0140			31645	GENERAL TOOL & SUPPLY CO	44861	04-25-80	C 05-80		10	54313	48.60	
0140			08440	BEARINGS INC	P049290	04-30-80	C 05-80		10	54356	50.54	
0140			16938	COAST INDUSTRIAL SUPPLY	87747	05-21-80	C 05-80		10	54364	351.30	
0140			02430	AIRCO WELDING SUPPLY	013163	04-30-80	C 05-80		10	54367	341.49	
0140			08440	BEARINGS INC	P049398	04-30-80	C 05-80		10	54371	87.62	
0140			04470	AMERICAN STEEL	41219	05-09-80	C 05-80		10	54415	459.16	
0140			04470	AMERICAN STEEL	41281	05-05-80	C 05-80		10	54426	44.51	
0140			04470	AMERICAN STEEL	41355	05-05-80	C 05-80		10	54439	824.46	
0140			44575	LA GRAND STEEL PRODUCTS	8036	05-02-80	C 05-80		10	54440	207.83	
0140			70803	GEORGE SHORT CO	38299P	05-14-80	C 05-80		10	54441	111.00	
0140			31645	GENERAL TOOL & SUPPLY CO	45953	05-05-80	C 05-80		10	54470	38.00	
0140			66960	RODDA PAINT CO	68279	05-06-80	C 05-80		10	54471	16.20	
0140			53440	MUNNELL & SMERRILL INC	P25711	05-22-80	C 05-80		10	54472	69.50	
0140			37220	KEN HUMKE	27573	05-06-80	C 05-80		10	54495	59.07	
0140			72259	STACK STEEL & SUPPLY CO	P10070	05-08-80	C 05-80		10	54500	1,388.64	
0140			74790	TAP PLASTICS	12927	05-14-80	C 05-80		10	54518	25.01	
0140			10971	RAY BRISTOW CO	114460	05-21-80	C 05-80		10	54530	51.23	
0140			60000	PARAMOUNT SUPPLY CO	35317	05-13-80	C 05-80		10	54532	35.31	
0140			02430	AIRCO WELDING SUPPLY	013547	05-09-80	P 05-80		10	54591	886.20	
0140			37220	KEN HUMKE	27493	05-09-80	C 05-80		10	54592	55.25	
0140			10412	BOYD INDUSTRIAL RUBBER	1214184	05-13-80	C 05-80		10	54604	29.70	
0140			02720	ALASKAN COPPER & BRASS	12930101	05-20-80	C 05-80		10	54627	491.77	
0140			04470	AMERICAN STEEL	42640	05-15-80	C 05-80		10	54632	1,067.18	
0140			66960	RODDA PAINT CO	62871	05-15-80	C 05-80		10	54665	47.16	
0140			58630	PACIFIC MACHINERY & TOOL	12147	05-16-80	C 05-80		10	54671	782.77	
0140			08445	BEAVER BOLT	2893	05-19-80	C 05-80		10	54679	170.34	
0140			04470	AMERICAN STEEL	42642	05-21-80	C 05-80		10	54726	32.06	
0140			04470	AMERICAN STEEL	43391	05-21-80	P 05-80		10	54726	434.78	
0140			04470	AMERICAN STEEL	43441	05-22-80	A 05-80		10	54726	178.10	
0140			64053	VANCE PUTNAM	PC-WHSEPC	05-01-80	C 05-80		60		3.70	
0140			64053	VANCE PUTNAM	PC-WHSEPC	05-16-80	C 05-80		60		19.45	
0140			64053	VANCE PUTNAM	PC-WHSEPC	05-16-80	C 05-80		60		1.17	
0140			64053	VANCE PUTNAM	PC-WHSEPC	05-16-80	C 05-80		60		3.00	
ACCOUNT TOTAL *****											89,332.65	✓
0141			62500	PORTLAND MACHINERY	CM-68875A	04-17-80	A 05-80		10	34844	174.02-	
0141			62500	PORTLAND MACHINERY	IC-68875	04-17-80	A 05-80		10	34844	174.02	
0141			21040	A W DAVIS SUPPLY CO	63664	06-18-79	A 05-80		10	39132	256.01	
0141			21040	A W DAVIS SUPPLY CO	CM-12898	05-29-80	A 05-80		10	39132	256.01-	
0141			31645	GENERAL TOOL & SUPPLY CO	25818	04-24-80	C 05-80		10	46285	47.74	

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0141			01328	ABRASIVE SPECIALTIES INC	3322	05-15-80	C 05-80		10	46750	24.00	
0141			68920	SANDERSON SAFETY SUPPLY	96534	02-14-80	A 05-80		10	46758	4.80	
0141			68920	SANDERSON SAFETY SUPPLY	96857	02-11-80	A 05-80		10	46758	122.30	
0141			68920	SANDERSON SAFETY SUPPLY	CK36459	02-13-80	A 05-80	05-28-80	10	46758	4.80-	
0141			68920	SANDERSON SAFETY SUPPLY	CK36459	02-13-80	A 05-80	05-28-80	10	46758	122.30-	
0141			31645	GENERAL TOOL & SUPPLY CO	32548	05-23-80	C 05-80		10	46952	41.13	
0141			59800	PALM ABRASIVE & TOOL CO	44611	04-30-80	C 05-80		10	47066	806.40	
0141			74880	TAYLOR ELECTRIC SUPPLY	103078	02-27-80	C 05-80		10	47181	944.42	
0141			04470	AMERICAN STEEL	DAF17819	04-01-80	A 05-80	05-06-80	10	47185	479.69-	
0141			21070	DAVIS INDUSTRIAL PRODUCT	01896	05-29-80	C 05-80		10	47254	130.00	
0141			05640	ARONSON INDUSTRIAL SPLY	011797	05-05-80	P 05-80		10	47266	3.90	
0141			05640	ARONSON INDUSTRIAL SPLY	012635	05-13-80	P 05-80		10	47266	3.90	
0141			64120	QUIMBY WELDING SUPPLIES	71097	04-23-80	A 05-80		10	47347	43.20	
0141			64120	QUIMBY WELDING SUPPLIES	70834	05-08-80	A 05-80		10	47347	28.80	
0141			64120	QUIMBY WELDING SUPPLIES	12005	05-19-80	A 05-80		10	47347	32.40	
0141			31645	GENERAL TOOL & SUPPLY CO	37211	04-25-80	P 05-80		10	47411	20.50	
0141			49547	MCLEAN TRUCKING CO	176312290	03-17-80	A 05-80		28	47431	67.37	
0141			31645	GENERAL TOOL & SUPPLY CO	37002	05-01-80	C 05-80		10	47435	9.50	
0141			64120	QUIMBY WELDING SUPPLIES	69796	05-05-80	A 05-80		10	47450	39.36	
0141			64120	QUIMBY WELDING SUPPLIES	11717	05-13-80	A 05-80		10	47450	238.83	
0141			31645	GENERAL TOOL & SUPPLY CO	37813	04-14-80	A 05-80		10	47561	55.60	
0141			38640	INDUSTRIAL TOOL & SUPPLY	6043	05-23-80	A 05-80		10	47651	76.40	
0141			38640	INDUSTRIAL TOOL & SUPPLY	6618	05-30-80	A 05-80		10	47651	114.60	
0141			59800	PALM ABRASIVE & TOOL CO	48788	04-25-80	C 05-80		10	47689	29.60	
0141			05640	ARONSON INDUSTRIAL SPLY	012054	05-07-80	P 05-80		10	47719	69.52	
0141			05640	ARONSON INDUSTRIAL SPLY	012912	05-15-80	P 05-80		10	47719	61.98	
0141			31645	GENERAL TOOL & SUPPLY CO	40430	03-26-80	C 05-80		10	47724	684.90	
0141			31645	GENERAL TOOL & SUPPLY CO	CM-44357	04-25-80	P 05-80		10	47724	150.48-	
0141			31645	GENERAL TOOL & SUPPLY CO	40710	04-16-80	A 05-80		10	47733	48.55	
0141			05640	ARONSON INDUSTRIAL SPLY	8011576	05-01-80	C 05-80		10	47740	97.92	
0141			21070	DAVIS INDUSTRIAL PRODUCT	7335	04-30-80	C 05-80		10	47761	104.60	
0141			31645	GENERAL TOOL & SUPPLY CO	40766	05-06-80	C 05-80		10	47821	4.85	
0141			31645	GENERAL TOOL & SUPPLY CO	40768	05-01-80	P 05-80		10	47821	4.36	
0141			21070	DAVIS INDUSTRIAL PRODUCT	7427	04-28-80	C 05-80		10	47834	9.00	
0141			31645	GENERAL TOOL & SUPPLY CO	41102	04-07-80	P 05-80		10	47836	294.86	
0141			31645	GENERAL TOOL & SUPPLY CO	41105	04-01-80	C 05-80		10	47836	131.90	
0141			31645	GENERAL TOOL & SUPPLY CO	CM-44371	04-25-80	P 05-80		10	47836	68.38-	
0141			62500	PORTLAND MACHINERY	IC-72311A	05-09-80	A 05-80		10	47840	162.11	
0141			62500	PORTLAND MACHINERY	IC-72311B	05-29-80	C 05-80		10	47840	36.76	
0141			38640	INDUSTRIAL TOOL & SUPPLY	5233	05-13-80	C 05-80		10	47841	530.54	
0141			01328	ABRASIVE SPECIALTIES INC	3167	04-02-80	C 05-80		10	47848	50.40	
0141			01328	ABRASIVE SPECIALTIES INC	DAF3167	04-02-80	A 05-80	05-06-80	10	47848	63.00-	
0141			31645	GENERAL TOOL & SUPPLY CO	41834	04-28-80	C 05-80		10	47904	404.60	
0141			02430	AIRCO WELDING SUPPLY	012368	04-28-80	C 05-80		10	47953	20.18	
0141			05080	APEX IND SUPPLY	28913	04-14-80	C 05-80		10	47958	56.49	
0141			01328	ABRASIVE SPECIALTIES INC	3326	05-15-80	C 05-80		10	47962	34.60	
0141			31645	GENERAL TOOL & SUPPLY CO	41932	05-06-80	P 05-80		10	47966	25.06	
0141			31645	GENERAL TOOL & SUPPLY CO	41933	05-06-80	C 05-80		10	47966	28.70	
0141			64120	QUIMBY WELDING SUPPLIES	71462	04-30-80	C 05-80		10	47970	2.86	

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0141			59800	PALM ABRASIVE & TOOL CO	48949	05-12-80	P 05-80		10	47972	207.76	
0141			59800	PALM ABRASIVE & TOOL CO	51702	05-23-80	C 05-80		10	47972	246.56	
0141			16730	CLEANUP CO	4710	04-09-80	C 05-80		10	47982	78.00	
0141			31645	GENERAL TOOL & SUPPLY CO	41694	04-14-80	P 05-80		10	53442	56.24	
0141			31645	GENERAL TOOL & SUPPLY CO	43120	05-02-80	C 05-80		10	53442	43.16	
0141			31645	GENERAL TOOL & SUPPLY CO	44928	04-28-80	P 05-80		10	53903	72.54	
0141			31645	GENERAL TOOL & SUPPLY CO	45431	05-23-80	P 05-80		10	53903	24.18	
0141			31645	GENERAL TOOL & SUPPLY CO	44280	04-28-80	P 05-80		10	53912	43.20	
0141			31645	GENERAL TOOL & SUPPLY CO	45433	05-21-80	P 05-80		10	53912	43.20	
0141			21070	DAVIS INDUSTRIAL PRODUCT	10296	05-08-80	P 05-80		10	54004	23.72	
0141			21070	DAVIS INDUSTRIAL PRODUCT	7713	05-08-80	P 05-80		10	54004	334.17	
0141			21070	DAVIS INDUSTRIAL PRODUCT	7690	05-13-80	P 05-80		10	54004	13.73	
0141			21070	DAVIS INDUSTRIAL PRODUCT	10934	05-12-80	C 05-80		10	54004	59.30	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11460	05-27-80	A 05-80		10	54004	65.23	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11524	05-23-80	A 05-80		10	54004	96.11	
0141			31645	GENERAL TOOL & SUPPLY CO	42626	04-16-80	C 05-80		10	54014	504.00	
0141			62380	PORTLAND ELECTRIC & PLUM	062739	04-11-80	C 05-80		10	54043	167.60	
0141			59800	PALM ABRASIVE & TOOL CO	49480	05-12-80	P 05-80		10	54047	108.75	
0141			31645	GENERAL TOOL & SUPPLY CO	42680	04-14-80	P 05-80		10	54049	73.66	
0141			31645	GENERAL TOOL & SUPPLY CO	42681	04-14-80	P 05-80		10	54049	27.60	
0141			31645	GENERAL TOOL & SUPPLY CO	42683	04-14-80	P 05-80		10	54049	.63	
0141			31645	GENERAL TOOL & SUPPLY CO	43139	04-25-80	P 05-80		10	54049	33.00	
0141			31645	GENERAL TOOL & SUPPLY CO	43138	05-01-80	P 05-80		10	54049	36.60	
0141			31645	GENERAL TOOL & SUPPLY CO	42833	05-14-80	P 05-80		10	54049	17.50	
0141			31645	GENERAL TOOL & SUPPLY CO	44470	05-07-80	P 05-80		10	54049	24.54	
0141			31645	GENERAL TOOL & SUPPLY CO	42687	04-14-80	C 05-80		10	54064	14.08	
0141			01850	ACTION ARC	1297	04-23-80	C 05-80		10	54067	271.32	
0141			74880	TAYLOR ELECTRIC SUPPLY	111858	04-28-80	C 05-80		10	54092	479.00	
0141			30342	GARDEN STATE OFFICE SUPP	002557	04-24-80	C 05-80		10	54102	216.00	
0141			60099	JOHN PARK	9744	05-15-80	C 05-80		10	54116	50.00	
0141			60099	JOHN PARK	DAF9744	05-15-80	A 05-80	05-22-80	10	54116	50.00-	
0141			60285	PAULSEN & ROLES LAB	9744	05-15-80	C 05-80		10	54116	50.00	
0141			64120	QUIMBY WELDING SUPPLIES	10940	04-30-80	C 05-80		10	54124	37.68	
0141			64120	QUIMBY WELDING SUPPLIES	CM-11534	05-05-80	A 05-80		10	54124	44.28-	
0141			64120	QUIMBY WELDING SUPPLIES	CM-11931	05-07-80	A 05-80		10	54124	37.68-	
0141			31645	GENERAL TOOL & SUPPLY CO	43531	04-17-80	C 05-80		10	54126	639.80	
0141			21070	DAVIS INDUSTRIAL PRODUCT	008622	04-28-80	P 05-80		10	54127	590.22	
0141			21070	DAVIS INDUSTRIAL PRODUCT	9174	04-28-80	C 05-80		10	54127	545.46	
0141			31645	GENERAL TOOL & SUPPLY CO	43540	04-18-80	C 05-80		10	54142	162.90	
0141			66203	RICE SAFETY EQUIPMENT	089402	04-24-80	C 05-80		10	54144	1,200.00	
0141			31645	GENERAL TOOL & SUPPLY CO	43558	04-24-80	C 05-80		10	54158	497.95	
0141			40228	J F W INDUSTRIES	08219	05-08-80	C 05-80		10	54159	8.73	
0141			31645	GENERAL TOOL & SUPPLY CO	43563	04-21-80	C 05-80		10	54164	279.88	
0141			68920	SANDERSON SAFETY SUPPLY	18203	04-25-80	C 05-80		10	54174	26.40	
0141			31645	GENERAL TOOL & SUPPLY CO	43569	04-21-80	P 05-80		10	54178	134.14	
0141			31645	GENERAL TOOL & SUPPLY CO	43570	04-21-80	P 05-80		10	54178	49.84	
0141			45960	LINDSAY ENTERPRISES INC	3140	04-22-80	C 05-80		10	54179	637.19	
0141			38640	INDUSTRIAL TOOL & SUPPLY	4602	04-28-80	C 05-80		10	54186	36.88	
0141			31645	GENERAL TOOL & SUPPLY CO	43574	04-21-80	P 05-80		10	54193	27.72	

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0141			31645	GENERAL TOOL & SUPPLY CO	43575	04-21-80	P 05-80		10	54193	19.49	
0141			31645	GENERAL TOOL & SUPPLY CO	43086	05-05-80	C 05-80		10	54193	6.00	
0141			66205	RICE SAFETY EQUIPMENT	089794	04-26-80	C 05-80		10	54198	286.61	
0141			64120	QUIMBY WELDING SUPPLIES	10705	04-30-80	P 05-80		10	54199	52.80	
0141			31645	GENERAL TOOL & SUPPLY CO	43578	04-22-80	P 05-80		10	54201	1,225.94	
0141			31645	GENERAL TOOL & SUPPLY CO	43579	04-22-80	C 05-80		10	54201	984.96	
0141			68920	SANDERSON SAFETY SUPPLY	20537	04-29-80	C 05-80		10	54202	1,440.00	
0141			74880	TAYLOR ELECTRIC SUPPLY	112999	04-23-80	C 05-80		10	54223	56.38	
0141			69630	SEAPORT INDUSTRIAL SUPP	P10857	04-28-80	C 05-80		10	54236	260.00	
0141			66960	RODDA PAINT CO	65782	04-24-80	P 05-80		10	54239	49.22	
0141			66960	RODDA PAINT CO	65740	04-23-80	C 05-80		10	54239	49.22	
0141			31645	GENERAL TOOL & SUPPLY CO	44813	04-23-80	C 05-80		10	54240	1,521.03	
0141			37220	KEN MURKE	25144	04-24-80	C 05-80		10	54241	45.42	
0141			69630	SEAPORT INDUSTRIAL SUPP	P10859	04-28-80	C 05-80		10	54242	320.64	
0141			70803	GEORGE SHORT CO	38050	04-28-80	C 05-80		10	54243	59.80	
0141			21070	DAVIS INDUSTRIAL PRODUCT	009271	04-28-80	P 05-80		10	54260	264.34	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11884	05-23-80	P 05-80		10	54260	50.64	
0141			21070	DAVIS INDUSTRIAL PRODUCT	9492	05-23-80	P 05-80		10	54260	64.16	
0141			59800	PALM ABRASIVE & TOOL CO	50388	04-28-80	C 05-80		10	54261	48.27	
0141			05640	ARONSON INDUSTRIAL SPLY	8011061	04-25-80	C 05-80		10	54287	80.28	
0141			64120	QUIMBY WELDING SUPPLIES	10971	04-25-80	C 05-80		10	54288	321.60	
0141			21070	DAVIS INDUSTRIAL PRODUCT	009540	04-29-80	C 05-80		10	54289	542.56	
0141			31645	GENERAL TOOL & SUPPLY CO	44842	05-01-80	C 05-80		10	54290	417.57	
0141			31645	GENERAL TOOL & SUPPLY CO	44843	05-05-80	P 05-80		10	54290	46.16	
0141			02430	AIRCO WELDING SUPPLY	012961	04-24-80	C 05-80		10	54292	57.30	
0141			44570	LA GRAND INDUSTRIAL SUPP	6716	04-25-80	C 05-80		10	54294	72.42	
0141			66205	RICE SAFETY EQUIPMENT	090123	04-30-80	C 05-80		10	54304	10.12	
0141			05080	APEX IND SUPPLY	29371	04-28-80	P 05-80		10	54323	417.60	
0141			05080	APEX IND SUPPLY	29318	05-12-80	C 05-80		10	54323	54.00	
0141			45960	LINDSAY ENTERPRISES INC	3523	04-28-80	P 05-80		10	54324	676.80	
0141			45960	LINDSAY ENTERPRISES INC	3765	05-02-80	C 05-80		10	54324	20.65	
0141			38450	INDUSTRIAL PRODUCTS	20573	04-28-80	C 05-80		10	54325	25.56	
0141			31645	GENERAL TOOL & SUPPLY CO	44870	04-28-80	C 05-80		10	54326	47.70	
0141			21070	DAVIS INDUSTRIAL PRODUCT	009829	04-29-80	C 05-80		10	54327	104.70	
0141			05080	APEX IND SUPPLY	29375	04-29-80	P 05-80		10	54328	144.56	
0141			05080	APEX IND SUPPLY	29376	04-29-80	P 05-80		10	54328	66.96	
0141			05080	APEX IND SUPPLY	29319	05-05-80	C 05-80		10	54328	86.46	
0141			31645	GENERAL TOOL & SUPPLY CO	44874	04-28-80	P 05-80		10	54345	38.28	
0141			31645	GENERAL TOOL & SUPPLY CO	44496	05-07-80	P 05-80		10	54345	20.52	
0141			31645	GENERAL TOOL & SUPPLY CO	44882	04-29-80	C 05-80		10	54348	250.60	
0141			66960	RODDA PAINT CO	60932	04-29-80	C 05-80		10	54349	43.20	
0141			60000	PARAMOUNT SUPPLY CO	34809	05-07-80	C 05-80		10	54350	315.00	
0141			64120	QUIMBY WELDING SUPPLIES	11619	04-30-80	C 05-80		10	54351	676.14	
0141			05640	ARONSON INDUSTRIAL SPLY	8011469	04-30-80	C 05-80		10	54352	95.34	
0141			70803	GEORGE SHORT CO	38204	05-08-80	C 05-80		10	54353	470.52	
0141			38640	INDUSTRIAL TOOL & SUPPLY	5198	05-12-80	C 05-80		10	54357	45.06	
0141			59800	PALM ABRASIVE & TOOL CO	50908	05-07-80	C 05-80		10	54366	787.00	
0141			44015	D KNISPEL	BEARING	04-29-80	C 05-80		10	54377	50.00	
0141			66205	RICE SAFETY EQUIPMENT	090137	04-30-80	C 05-80		10	54380	143.93	

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0141			05080	APEX IND SUPPLY	29402	05-08-80	C 05-80		10	54381	489.10	
0141			05640	ARONSON INDUSTRIAL SPLY	8011571	05-01-80	C 05-80		10	54383	215.32	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010244	05-07-80	C 05-80		10	54384	161.46	
0141			31645	GENERAL TOOL & SUPPLY CO	45904	04-30-80	C 05-80		10	54385	527.18	
0141			74880	TAYLOR ELECTRIC SUPPLY	114802	05-01-80	C 05-80		10	54401	135.72	
0141			01850	ACTION ARC	1302	04-30-80	C 05-80		10	54411	2,709.60	
0141			31645	GENERAL TOOL & SUPPLY CO	45907	04-30-80	C 05-80		10	54413	508.32	
0141			68920	SANDERSON SAFETY SUPPLY	23351	05-01-80	P 05-80		10	54414	151.20	
0141			68920	SANDERSON SAFETY SUPPLY	24101	05-01-80	C 05-80		10	54414	154.80	
0141			30876	GENERAL ELECTRIC SUPPLY	845729084	05-08-80	C 05-80		10	54419	70.40	
0141			55350	NORTH COAST ELECTRIC CO	37587	05-01-80	C 05-80		10	54421	77.58	
0141			44570	LA GRAND INDUSTRIAL SUPP	7059	05-01-80	C 05-80		10	54430	657.71	
0141			64120	QUIMBY WELDING SUPPLIES	11408	05-16-80	C 05-80		10	54435	24.83	
0141			01850	ACTION ARC	1310	05-06-80	P 05-80		10	54473	64.80	
0141			01850	ACTION ARC	1321	05-15-80	C 05-80		10	54473	114.10	
0141			01850	ACTION ARC	CM-1317	05-13-80	P 05-80		10	54473	64.80-	
0141			01850	ACTION ARC	1306	05-05-80	C 05-80		10	54474	98.52	
0141			66205	RICE SAFETY EQUIPMENT	002555	05-12-80	P 05-80		10	54475	112.64	
0141			66205	RICE SAFETY EQUIPMENT	003012	05-17-80	C 05-80		10	54475	270.30	
0141			44570	LA GRAND INDUSTRIAL SUPP	7306	05-06-80	C 05-80		10	54476	335.40	
0141			05640	ARONSON INDUSTRIAL SPLY	011829	05-05-80	C 05-80		10	54477	1,113.73	
0141			05640	ARONSON INDUSTRIAL SPLY	011830	05-05-80	P 05-80		10	54477	127.44	
0141			74880	TAYLOR ELECTRIC SUPPLY	115635	05-05-80	C 05-80		10	54478	52.47	
0141			62380	PORTLAND ELECTRIC & PLUM	67000	05-05-80	C 05-80		10	54479	81.62	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010672	05-07-80	P 05-80		10	54480	858.94	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010673	05-07-80	P 05-80		10	54480	643.92	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010671	05-14-80	P 05-80		10	54480	1,292.93	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11017	05-27-80	P 05-80		10	54480	254.99	
0141			21070	DAVIS INDUSTRIAL PRODUCT	12341	05-30-80	P 05-80		10	54480	94.88	
0141			31645	GENERAL TOOL & SUPPLY CO	45840	05-05-80	C 05-80		10	54481	467.64	
0141			64120	QUIMBY WELDING SUPPLIES	11689	05-06-80	P 05-80		10	54485	35.22	
0141			64120	QUIMBY WELDING SUPPLIES	11710	05-09-80	C 05-80		10	54485	622.56	
0141			64120	QUIMBY WELDING SUPPLIES	11768	05-22-80	A 05-80		10	54485	21.48	
0141			45960	LINDSAY ENTERPRISES INC	3881	05-06-80	P 05-80		10	54498	562.30	
0141			45960	LINDSAY ENTERPRISES INC	4230	05-13-80	C 05-80		10	54498	45.60	
0141			05640	ARONSON INDUSTRIAL SPLY	8011919	05-06-80	C 05-80		10	54501	56.00	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010741	05-07-80	P 05-80		10	54502	298.29	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11030	05-13-80	P 05-80		10	54502	27.20	
0141			21070	DAVIS INDUSTRIAL PRODUCT	11014	05-30-80	C 05-80		10	54502	97.80	
0141			05080	APEX IND SUPPLY	29443	05-08-80	P 05-80		10	54503	139.25	
0141			05080	APEX IND SUPPLY	29576	05-12-80	P 05-80		10	54503	45.02	
0141			31645	GENERAL TOOL & SUPPLY CO	45967	05-05-80	P 05-80		10	54505	59.72	
0141			31645	GENERAL TOOL & SUPPLY CO	46528	05-08-80	C 05-80		10	54505	59.72	
0141			44799	LANE LABORATORIES INC	34800	05-09-80	C 05-80		10	54509	63.00	
0141			05640	ARONSON INDUSTRIAL SPLY	8012010	05-06-80	P 05-80		10	54510	160.68	
0141			05640	ARONSON INDUSTRIAL SPLY	012111	05-07-80	C 05-80		10	54510	57.60	
0141			01850	ACTION ARC	1309	05-06-80	C 05-80		10	54511	414.80	
0141			05080	APEX IND SUPPLY	29526	05-08-80	C 05-80		10	54512	55.32	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010846	05-07-80	P 05-80		10	54513	458.22	



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0141			21070	DAVIS INDUSTRIAL PRODUCT	010925	05-23-80	C 05-80		10	54513	202.40	
0141			31645	GENERAL TOOL & SUPPLY CO	45988	05-06-80	P 05-80		10	54514	483.88	
0141			31645	GENERAL TOOL & SUPPLY CO	45985	05-15-80	C 05-80		10	54514	2,240.39	
0141			21070	DAVIS INDUSTRIAL PRODUCT	010870	05-06-80	C 05-80		10	54520	22.76	
0141			64120	QUIMBY WELDING SUPPLIES	11813	05-06-80	C 05-80		10	54526	640.00	
0141			38640	INDUSTRIAL TOOL & SUPPLY	5576	05-14-80	C 05-80		10	54535	34.38	
0141			57363	ORE TRANSFORMER & SUPPLY	011526	05-22-80	C 05-80		10	54539	521.10	
0141			47650	MALMBERG TOOL & FORGE	8391	05-12-80	C 05-80		10	54540	1,050.00	
0141			48130	MARINERS SUPPLY CO INC	1493	05-07-80	C 05-80		10	54541	498.00	
0141			64120	QUIMBY WELDING SUPPLIES	11851	05-08-80	C 05-80		10	54542	315.00	
0141			03640	ARONSON INDUSTRIAL SPLY	012131	05-07-80	C 05-80		10	54543	38.76	
0141			59800	PALM ABRASIVE & TOOL CO	51263	05-12-80	C 05-80		10	54544	352.80	
0141			31645	GENERAL TOOL & SUPPLY CO	46806	05-07-80	C 05-80		10	54549	363.30	
0141			51000	MILWAUKIE CRANE & EQUIPM	16703	05-13-80	C 05-80		10	54551	984.20	
0141			64120	QUIMBY WELDING SUPPLIES	11971	05-08-80	P 05-80		10	54575	18.30	
0141			64120	QUIMBY WELDING SUPPLIES	11977	05-12-80	C 05-80		10	54575	18.30	
0141			56796	OLSHENS BOTTLE SUPPLY CO	03512	05-13-80	C 05-80		10	54581	107.60	
0141			21070	DAVIS INDUSTRIAL PRODUCT	011373	05-13-80	C 05-80		10	54582	57.63	
0141			31645	GENERAL TOOL & SUPPLY CO	46841	05-14-80	P 05-80		10	54583	131.02	
0141			31645	GENERAL TOOL & SUPPLY CO	46842	05-14-80	P 05-80		10	54583	407.44	
0141			31645	GENERAL TOOL & SUPPLY CO	46843	05-14-80	P 05-80		10	54583	132.20	
0141			64120	QUIMBY WELDING SUPPLIES	12040	05-09-80	C 05-80		10	54584	84.00	
0141			21070	DAVIS INDUSTRIAL PRODUCT	011374	05-09-80	C 05-80		10	54585	296.20	
0141			31645	GENERAL TOOL & SUPPLY CO	46845	05-09-80	C 05-80		10	54586	613.36	
0141			05080	APEX IND SUPPLY	29628	05-14-80	C 05-80		10	54587	355.44	
0141			03640	ARONSON INDUSTRIAL SPLY	8012458	05-12-80	C 05-80		10	54588	1,627.12	
0141			03640	ARONSON INDUSTRIAL SPLY	8012459	05-12-80	P 05-80		10	54588	72.32	
0141			64120	QUIMBY WELDING SUPPLIES	12041	05-09-80	C 05-80		10	54590	1,064.60	
0141			62500	PORTLAND MACHINERY	IC-72660	05-27-80	A 05-80		10	54592	584.00	
0141			29485	FRANKS TOOL WAREHOUSE	11946	05-14-80	P 05-80		10	54601	140.65	
0141			01850	ACTION ARC	1319	05-15-80	P 05-80		10	54606	407.85	
0141			01850	ACTION ARC	1328	05-20-80	P 05-80		10	54606	419.69	
0141			31645	GENERAL TOOL & SUPPLY CO	46864	05-12-80	P 05-80		10	54607	634.81	
0141			31645	GENERAL TOOL & SUPPLY CO	46865	05-12-80	P 05-80		10	54607	63.00	
0141			31645	GENERAL TOOL & SUPPLY CO	46863	05-14-80	C 05-80		10	54607	409.35	
0141			21070	DAVIS INDUSTRIAL PRODUCT	011523	05-13-80	C 05-80		10	54608	183.14	
0141			03640	ARONSON INDUSTRIAL SPLY	8013106	05-20-80	P 05-80		10	54609	243.36	
0141			45960	LINDSAY ENTERPRISES INC	4255	05-12-80	P 05-80		10	54617	657.42	
0141			21070	DAVIS INDUSTRIAL PRODUCT	011542	05-13-80	C 05-80		10	54619	14.40	
0141			59800	PALM ABRASIVE & TOOL CO	51512	05-15-80	C 05-80		10	54620	110.95	
0141			31645	GENERAL TOOL & SUPPLY CO	46897	05-13-80	C 05-80		10	54654	396.02	
0141			64120	QUIMBY WELDING SUPPLIES	12353	05-13-80	C 05-80		10	54655	342.26	
0141			44570	LA GRAND INDUSTRIAL SUPP	7728	05-14-80	C 05-80		10	54656	707.10	
0141			05080	APEX IND SUPPLY	29668	05-14-80	P 05-80		10	54658	119.37	
0141			05080	APEX IND SUPPLY	29670	05-14-80	P 05-80		10	54658	551.17	
0141			69630	SEAPORT INDUSTRIAL SUPP	11012	05-28-80	C 05-80		10	54663	49.19	
0141			59559	PACKER SCOTT	17890	05-16-80	C 05-80		10	54693	107.40	
0141			05080	APEX IND SUPPLY	29731	05-19-80	P 05-80		10	54694	305.40	
0141			05080	APEX IND SUPPLY	29623	05-29-80	C 05-80		10	54694	157.26	

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0141			05640	ARONSON INDUSTRIAL SPLY	54695	05-19-80	C	05-80	10	54695	455.28	
0141			40228	J F W INDUSTRIES	08394	05-21-80	C	05-80	10	54696	153.00	
0141			50700	MILL & POWER SPECIALTIES	16275	05-19-80	C	05-80	10	54697	172.80	
0141			31645	GENERAL TOOL & SUPPLY CO	47395	05-16-80	C	05-80	10	54698	103.40	
0141			64120	QUIMBY WELDING SUPPLIES	12608	05-19-80	C	05-80	10	54699	176.40	
0141			21070	DAVIS INDUSTRIAL PRODUCT	012516	05-20-80	P	05-80	10	54713	20.64	
0141			45960	LINDSAY ENTERPRISES INC	4525	05-19-80	C	05-80	10	54714	790.41	
0141			05080	APEX IND SUPPLY	29737	05-21-80	C	05-80	10	54717	229.70	
0141			05640	ARONSON INDUSTRIAL SPLY	8013344	05-22-80	P	05-80	10	54743	844.80	
0141			64120	QUIMBY WELDING SUPPLIES	12930	05-22-80	C	05-80	10	54753	114.00	
0141			05640	ARONSON INDUSTRIAL SPLY	8013297	05-22-80	C	05-80	10	54756	17.30	
0141			05640	ARONSON INDUSTRIAL SPLY	8013334	05-22-80	P	05-80	10	54756	374.66	
0141			40228	J F W INDUSTRIES	08340	05-21-80	P	05-80	10	54757	92.04	
0141			31645	GENERAL TOOL & SUPPLY CO	47762	05-23-80	P	05-80	10	54759	1,353.09	
0141			31645	GENERAL TOOL & SUPPLY CO	47763	05-23-80	C	05-80	10	54759	1,036.80	
0141			53520	MURPHY INDUSTRIAL SUPPLY	10940	05-21-80	C	05-80	10	54763	17.12	
0141			21070	DAVIS INDUSTRIAL PRODUCT	013030	05-23-80	C	05-80	10	54774	567.82	
0141			69630	SEAPORT INDUSTRIAL SUPP	11108	05-23-80	P	05-80	10	54776	775.75	
0141			21070	DAVIS INDUSTRIAL PRODUCT	013365	05-30-80	C	05-80	10	54802	40.64	
0141			66205	RICE SAFETY EQUIPMENT	004576	05-30-80	P	05-80	10	54807	5,920.00	
0141			68920	SANDERSON SAFETY SUPPLY	7127	05-30-80	P	05-80	10	54808	1,463.89	
0141			05640	ARONSON INDUSTRIAL SPLY	013768	05-29-80	C	05-80	10	54810	674.16	
0141			22641	DO ALL NORTHWEST CO	802391	06-04-80	C	05-80	10	54833	47.00	
0141			21070	DAVIS INDUSTRIAL PRODUCT	013746	05-30-80	P	05-80	10	54848	460.46	
0141			69630	SEAPORT INDUSTRIAL SUPP	P11154	05-30-80	C	05-80	10	54849	386.01	
0141			64120	QUIMBY WELDING SUPPLIES	13481	05-29-80	C	05-80	10	54850	138.00	
0141			05080	APEX IND SUPPLY	30070	05-30-80	P	05-80	10	54853	448.56	
0141			01850	ACTION ARC	1344	05-30-80	C	05-80	10	54854	1,295.40	
0141			31645	GENERAL TOOL & SUPPLY CO	46417	05-05-80	C	05-80	10	55153	98.80	
0141			25886	WALLY EMERSON	PC-PETTYCASH	05-09-80	C	05-80	60		17.40	
0141			25886	WALLY EMERSON	PC-PETTYCASH	05-13-80	C	05-80	60		3.80	
0141			25886	WALLY EMERSON	PC-PETTYCASH	05-20-80	C	05-80	60		8.00	
0141			31645	GENERAL TOOL & SUPPLY CO	CH-30894	05-25-80	P	05-80	10	R2763	57.54-	
ACCOUNT TOTAL *****											78,677.18	
0142			25350	ELECTRICAL CONSTRUCTION	IC-75293	04-22-80	C	05-80	10	46578	32,935.62	
0142			70803	GEORGE SHORT CO	38047P	04-28-80	A	05-80	10	46591	675.80	
0142			60000	PARAMOUNT SUPPLY CO	25679	04-10-80	P	05-80	10	47259	334.36	
0142			81835	WALTER WALKER DIST	32591	05-15-80	A	05-80	10	47290	21.87	
0142			02470	AIRWELD	CH-144421	03-31-80	A	05-80	10	47300	16.44-	
0142			10971	RAY BRISTOW CO	CH-112445	04-28-80	C	05-80	10	47312	9.12-	
0142			38035	IN-MAR SALES INC	23274	05-06-80	P	05-80	10	47392	337.17	
0142			40228	J F W INDUSTRIES	08051	05-08-80	C	05-80	10	47393	24.90	
0142			60000	PARAMOUNT SUPPLY CO	25617	05-13-80	C	05-80	10	47720	228.75	
0142			60176	PARR LUMBER CO	10808	04-01-80	C	05-80	10	47739	40.80	
0142			45140	GEO LAWRENCE CO	24194	04-14-80	C	05-80	10	47767	442.40	
0142			60000	PARAMOUNT SUPPLY CO	33454	04-28-80	P	05-80	10	47768	25.65	
0142			60000	PARAMOUNT SUPPLY CO	34427	05-19-80	C	05-80	10	47768	87.48	

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0142			70803	GEORGE SHORT CO	38051	04-30-80	C	05-80	10	47783	471.19	
0142			53555	NDT APPARATUS & SUPPLY	6478NW	04-30-80	A	05-80	10	47866	108.00	
0142			37220	KEN HUMKE	22639	04-23-80	C	05-80	10	47870	16.00	
0142			10971	RAY BRISTOW CO	113477	04-30-80	C	05-80	10	47880	11.44	
0142			60000	PARAMOUNT SUPPLY CO	32929	03-17-80	P	05-80	10	47924	15.56	
0142			60000	PARAMOUNT SUPPLY CO	33339	03-17-80	P	05-80	10	47924	99.81	
0142			56850	OMEGA DISTRIBUTING	6491	04-24-80	P	05-80	10	47974	96.00	
0142			56850	OMEGA DISTRIBUTING	6846	04-24-80	C	05-80	10	47974	272.00	
0142			60000	PARAMOUNT SUPPLY CO	33219	04-28-80	C	05-80	10	47981	114.62	
0142			10971	RAY BRISTOW CO	110214	04-25-80	P	05-80	10	48000	285.14	
0142			10971	RAY BRISTOW CO	111450	04-30-80	C	05-80	10	48000	12.60	
0142			37220	KEN HUMKE	17137	02-26-80	C	05-80	10	52035	46.50	
0142			74880	TAYLOR ELECTRIC SUPPLY	104624	03-11-80	A	05-80	10	52467	819.24	
0142			50465	WIDCO PIPE & TUBE INC	56416	05-22-80	C	05-80	10	52688	3,991.74	
0142			62250	POPE RIGGING LOFT INC	12004	05-03-80	C	05-80	10	52806	960.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	111898	04-24-80	P	05-80	10	52915	215.07	
0142			74880	TAYLOR ELECTRIC SUPPLY	108176	04-25-80	P	05-80	10	52915	36.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	114036	04-28-80	C	05-80	10	52915	23.36	
0142			74880	TAYLOR ELECTRIC SUPPLY	109501	04-24-80	P	05-80	10	53013	75.47	
0142			74880	TAYLOR ELECTRIC SUPPLY	108800	05-05-80	P	05-80	10	53013	13.34	
0142			74880	TAYLOR ELECTRIC SUPPLY	11053	04-24-80	P	05-80	10	53249	200.48	
0142			74880	TAYLOR ELECTRIC SUPPLY	111060	04-24-80	P	05-80	10	53249	28.25	
0142			74880	TAYLOR ELECTRIC SUPPLY	114037	04-28-80	P	05-80	10	53249	74.55	
0142			74880	TAYLOR ELECTRIC SUPPLY	111878	05-20-80	P	05-80	10	53249	24.48	
0142			47680	MANNING PACKING & SUPPLY	15350	05-08-80	A	05-80	10	53376	65.00	
0142			34890	HARDWARE SPECIALTY CO	08989	04-25-80	C	05-80	10	53438	448.06	
0142			34890	HARDWARE SPECIALTY CO	09612	05-09-80	A	05-80	10	53438	870.00	
0142			78430	TRADE X	8013706022	05-16-80	A	05-80	28	53438	19.48	
0142			74880	TAYLOR ELECTRIC SUPPLY	112412	04-30-80	C	05-80	10	53519	31.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	112855	05-12-80	C	05-80	10	53525	46.36	
0142			63794	PROGRESSIVE FASTENING	2022	04-28-80	P	05-80	10	53540	94.55	
0142			63794	PROGRESSIVE FASTENING	2062	05-12-80	C	05-80	10	53540	686.11	
0142			70803	GEORGE SHORT CO	38536P	05-29-80	P	05-80	10	53640	.00	
0142			70803	GEORGE SHORT CO	37966P	04-23-80	C	05-80	10	53698	314.26	
0142			60600	PEERLESS PAC CO	17064	04-22-80	C	05-80	10	53705	64.80	
0142			23775	KEN DURHAM	60940	04-29-80	C	05-80	10	53768	442.80	
0142			23775	KEN DURHAM	0AF60940	04-29-80	A	05-80	05-09-80	10	53768	442.80-
0142			71680	SOUTHWESTERN PETROLEUM	60940	04-29-80	C	05-80	10	53768	442.80	
0142			48130	MARINERS SUPPLY CO INC	1442	04-24-80	C	05-80	10	53820	45.80	
0142			63680	PRIESTLEY OIL & CHEMICAL	28450	04-25-80	C	05-80	10	53836	1,672.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	113695	04-28-80	P	05-80	10	53851	114.54	
0142			74880	TAYLOR ELECTRIC SUPPLY	113694	04-29-80	P	05-80	10	53851	144.75	
0142			74880	TAYLOR ELECTRIC SUPPLY	114359	04-29-80	P	05-80	10	53851	89.85	
0142			74880	TAYLOR ELECTRIC SUPPLY	114365	04-29-80	P	05-80	10	53851	30.50	
0142			74880	TAYLOR ELECTRIC SUPPLY	114483	05-15-80	P	05-80	10	53851	7.91	
0142			61088	PETERS WELDING & IND SUP	30539	04-25-80	C	05-80	10	53876	2,641.30	
0142			38035	IN-MAR SALES INC	23730	04-29-80	C	05-80	10	53896	224.00	
0142			42754	KEENAN SUPPLY INC	686396	04-28-80	C	05-80	10	53897	26.60	
0142			74880	TAYLOR ELECTRIC SUPPLY	114357	04-28-80	C	05-80	10	53905	235.50	

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0142			79890	UNION AVENUE GLASS CO	4583	04-30-80	C 05-80		10	33915	79.44	
0142			48130	MARINERS SUPPLY CO INC	1460	04-30-80	C 05-80		10	33966	24.60	
0142			37220	KEN HUMKE	26131	04-29-80	C 05-80		10	33972	60.07	
0142			47820	MAR-INDUSTRIAL SALES INC	06231	04-30-80	C 05-80		10	33975	709.25	
0142			30400	GARRETT FREIGHT LINE	8012703403	05-06-80	A 05-80		28	33978	17.80	
0142			34890	HARDWARE SPECIALTY CO	09969	04-30-80	C 05-80		10	33978	810.00	
0142			63794	PROGRESSIVE FASTENING	2043	04-30-80	P 05-80		10	33979	198.22	
0142			63794	PROGRESSIVE FASTENING	2054	05-06-80	P 05-80		10	33979	244.65	
0142			74880	TAYLOR ELECTRIC SUPPLY	114832	04-30-80	P 05-80		10	33980	403.23	
0142			74880	TAYLOR ELECTRIC SUPPLY	114933	04-30-80	P 05-80		10	33980	7.45	
0142			74880	TAYLOR ELECTRIC SUPPLY	114945	05-08-80	P 05-80		10	33980	26.22	
0142			60000	PARAMOUNT SUPPLY CO	33455	05-13-80	C 05-80		10	34021	451.44	
0142			10971	RAY BRISTOW CO	110216	04-25-80	C 05-80		10	34056	98.12	
0142			10971	RAY BRISTOW CO	110218	04-25-80	P 05-80		10	34056	708.44	
0142			60000	PARAMOUNT SUPPLY CO	33526	04-28-80	P 05-80		10	34057	529.74	
0142			60000	PARAMOUNT SUPPLY CO	34426	05-07-80	C 05-80		10	34057	171.60	
0142			60000	PARAMOUNT SUPPLY CO	34861	05-07-80	P 05-80		10	34057	33.21	
0142			67360	ROSE CITY AWNING	26480	04-21-80	C 05-80		10	34114	1,389.50	
0142			10971	RAY BRISTOW CO	111451	04-30-80	C 05-80		10	34120	341.13	
0142			60000	PARAMOUNT SUPPLY CO	33945	04-28-80	P 05-80		10	34151	475.60	
0142			60000	PARAMOUNT SUPPLY CO	34377	05-07-80	P 05-80		10	34151	114.52	
0142			60000	PARAMOUNT SUPPLY CO	35010	05-13-80	C 05-80		10	34151	39.23	
0142			10971	RAY BRISTOW CO	112319	04-28-80	P 05-80		10	34152	979.43	
0142			10971	RAY BRISTOW CO	111523	04-30-80	C 05-80		10	34152	296.43	
0142			70803	GEORGE SHORT CO	38049P	04-28-80	C 05-80		10	34156	206.50	
0142			60000	PARAMOUNT SUPPLY CO	34230	05-07-80	C 05-80		10	34167	26.68	
0142			10971	RAY BRISTOW CO	111448	04-30-80	C 05-80		10	34181	257.87	
0142			60000	PARAMOUNT SUPPLY CO	34097	04-28-80	P 05-80		10	34184	770.15	
0142			60000	PARAMOUNT SUPPLY CO	34375	05-13-80	C 05-80		10	34184	78.00	
0142			87000	ZELLERBACK PAPER CO	0625624	04-29-80	C 05-80		10	34208	1,512.00	
0142			38035	IN-MAR SALES INC	23951	05-13-80	C 05-80		10	34211	475.50	
0142			60000	PARAMOUNT SUPPLY CO	34255	04-28-80	P 05-80		10	34212	21.00	
0142			60000	PARAMOUNT SUPPLY CO	34424	04-30-80	C 05-80		10	34212	10.50	
0142			10971	RAY BRISTOW CO	101938	04-30-80	C 05-80		10	34213	314.24	
0142			66205	RICE SAFETY EQUIPMENT	002490	05-12-80	C 05-80		10	34247	2,428.58	
0142			16938	COAST INDUSTRIAL SUPPLY	85547	04-28-80	C 05-80		10	34248	1,086.28	
0142			70803	GEORGE SHORT CO	38029	04-25-80	P 05-80		10	34249	471.19	
0142			70803	GEORGE SHORT CO	38116P	04-30-80	P 05-80		10	34249	195.20	
0142			27920	FAMILIAN NORTHWEST INC	01398696	04-30-80	C 05-80		10	34250	1,370.90	
0142			27920	FAMILIAN NORTHWEST INC	01398697	04-30-80	P 05-80		10	34250	334.75	
0142			27920	FAMILIAN NORTHWEST INC	01399935	05-02-80	P 05-80		10	34250	16.66	
0142			10971	RAY BRISTOW CO	113696	04-30-80	C 05-80		10	34258	921.22	
0142			62380	PORTLAND ELECTRIC & PLUM	P01728	04-24-80	C 05-80		10	34271	398.55	
0142			37220	KEN HUMKE	26624	04-24-80	C 05-80		10	34272	218.52	
0142			10971	RAY BRISTOW CO	12607901	04-30-80	C 05-80		10	34274	82.14	
0142			60000	PARAMOUNT SUPPLY CO	34585	04-28-80	P 05-80		10	34276	436.74	
0142			60000	PARAMOUNT SUPPLY CO	34570	04-30-80	C 05-80		10	34276	93.52	
0142			31645	GENERAL TOOL & SUPPLY CO	44841	04-24-80	A 05-80		10	34277	370.80	
0142			38035	IN-MAR SALES INC	23700	04-28-80	A 05-80		10	34278	342.00	

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0142			38450	INDUSTRIAL PRODUCTS	20521	04-30-80	C 05-80		10	54307	91.52	
0142			47820	MAR-DUSTRIAL SALES INC	06558	04-25-80	C 05-80		10	54319	141.00	
0142			16938	COAST INDUSTRIAL SUPPLY	85853	04-30-80	C 05-80		10	54334	157.86	
0142			16938	COAST INDUSTRIAL SUPPLY	CM-86259	05-06-80	P 05-80		10	54334	13.88-	
0142			40228	J F W INDUSTRIES	08195	05-08-80	C 05-80		10	54335	122.49	
0142			38035	IN-MAR SALES INC	23737	04-29-80	C 05-80		10	54336	252.80	
0142			05640	ARONSON INDUSTRIAL SPLY	011281	04-29-80	C 05-80		10	54337	454.80	
0142			05640	ARONSON INDUSTRIAL SPLY	011809	05-05-80	A 05-80		10	54337	478.90	
0142			60000	PARAMOUNT SUPPLY CO	34707	05-07-80	P 05-80		10	54338	2,570.11	
0142			60000	PARAMOUNT SUPPLY CO	35025	05-07-80	P 05-80		10	54338	366.80	
0142			60000	PARAMOUNT SUPPLY CO	34980	05-19-80	P 05-80		10	54338	346.41	
0142			60000	PARAMOUNT SUPPLY CO	35839	05-22-80	P 05-80		10	54338	225.38	
0142			60000	PARAMOUNT SUPPLY CO	36529	05-28-80	P 05-80		10	54338	307.72	
0142			10971	RAY BRISTOW CO	113695	04-30-80	C 05-80		10	54339	235.82	
0142			02430	AIRCO WELDING SUPPLY	013087	04-30-80	C 05-80		10	54359	384.50	
0142			61980	PIONEER STERILIZED WIPIN	65074	04-30-80	C 05-80		10	54360	275.00	
0142			62380	PORTLAND ELECTRIC & PLUM	P01994	04-29-80	C 05-80		10	54361	949.68	
0142			27920	FAMILIAN NORTHWEST INC	01399463	05-02-80	C 05-80		10	54362	949.55	
0142			10971	RAY BRISTOW CO	101999	05-15-80	C 05-80		10	54363	374.52	
0142			38035	IN-MAR SALES INC	23785	05-02-80	C 05-80		10	54382	118.08	
0142			81835	WALTER WALKER DIST	33411	05-07-80	P 05-80		10	54390	9.57	
0142			81835	WALTER WALKER DIST	33499	05-28-80	C 05-80		10	54390	20.88	
0142			02470	AIRWELD	106779	05-01-80	P 05-80		10	54400	17.92	
0142			02470	AIRWELD	106859	05-02-80	P 05-80		10	54400	26.88	
0142			57612	OREGON WIRE PRODUCTS	026667	04-30-80	C 05-80		10	54402	511.50	
0142			40228	J F W INDUSTRIES	08259	05-08-80	C 05-80		10	54403	129.38	
0142			16938	COAST INDUSTRIAL SUPPLY	86183	05-05-80	C 05-80		10	54404	639.75	
0142			60000	PARAMOUNT SUPPLY CO	35002	05-07-80	C 05-80		10	54405	613.70	
0142			60000	PARAMOUNT SUPPLY CO	35145	05-19-80	A 05-80		10	54405	181.35	
0142			10971	RAY BRISTOW CO	112592	05-09-80	P 05-80		10	54406	70.81	
0142			10971	RAY BRISTOW CO	114042	05-15-80	C 05-80		10	54406	9.70	
0142			70803	GEORGE SHORT CO	38300	05-14-80	C 05-80		10	54417	373.25	
0142			08010	E J BARTELLS CO	2167176	05-05-80	C 05-80		10	54427	363.00	
0142			60000	PARAMOUNT SUPPLY CO	35116	05-13-80	P 05-80		10	54432	163.40	
0142			60000	PARAMOUNT SUPPLY CO	35281	05-13-80	C 05-80		10	54432	374.67	
0142			44799	LANE LABORATORIES INC	34772	05-06-80	P 05-80		10	54433	762.00	
0142			44799	LANE LABORATORIES INC	34774	05-06-80	C 05-80		10	54433	363.00	
0142			10971	RAY BRISTOW CO	113828	05-09-80	C 05-80		10	54437	368.28	
0142			70803	GEORGE SHORT CO	38302P	05-14-80	C 05-80		10	54454	262.78	
0142			49380	MC DOWELL BAG CO	40214	05-02-80	C 05-80		10	54455	320.00	
0142			10971	RAY BRISTOW CO	113829	05-09-80	C 05-80		10	54457	704.38	
0142			16938	COAST INDUSTRIAL SUPPLY	86269	05-02-80	P 05-80		10	54463	152.00	
0142			16938	COAST INDUSTRIAL SUPPLY	86280	05-06-80	C 05-80		10	54463	2,196.39	
0142			37220	KEN HUMKE	27571	05-05-80	C 05-80		10	54488	950.40	
0142			10971	RAY BRISTOW CO	114459	05-21-80	C 05-80		10	54489	913.29	
0142			60000	PARAMOUNT SUPPLY CO	35184	05-07-80	P 05-80		10	54490	62.57	
0142			62380	PORTLAND ELECTRIC & PLUM	P02307	05-05-80	P 05-80		10	54491	1,015.44	
0142			62380	PORTLAND ELECTRIC & PLUM	P02793	05-13-80	C 05-80		10	54491	108.78	
0142			40228	J F W INDUSTRIES	08362	05-21-80	C 05-80		10	54492	18.00	

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0142			65880	RENTEX CORP	2985	05-06-80	C 05-80		10	54493	1,483.00	
0142			70803	GEORGE SHORT CO	38385P	05-16-80	C 05-80		10	54494	610.00	
0142			70803	GEORGE SHORT CO	38415	05-21-80	A 05-80		10	54494	534.40	
0142			27920	FAMILIAN NORTHWEST INC	01400666	05-12-80	C 05-80		10	54521	1,071.45	
0142			27920	FAMILIAN NORTHWEST INC	01400667	05-12-80	C 05-80		10	54521	226.55	
0142			27920	FAMILIAN NORTHWEST INC	01400668	05-12-80	P 05-80		10	54521	572.50	
0142			38035	IN-MAR SALES INC	23911	05-13-80	P 05-80		10	54522	237.90	
0142			45140	GEO LAWRENCE CO	18058	05-06-80	C 05-80		10	54523	458.20	
0142			10971	RAY BRISTOW CO	114462	05-21-80	P 05-80		10	54525	874.29	
0142			10971	RAY BRISTOW CO	114320	05-23-80	C 05-80		10	54525	134.80	
0142			74880	TAYLOR ELECTRIC SUPPLY	115382	05-16-80	C 05-80		10	54527	710.00	
0142			02430	AIRCO WELDING SUPPLY	013473	05-07-80	C 05-80		10	54535	282.00	
0142			16938	COAST INDUSTRIAL SUPPLY	86612	05-09-80	C 05-80		10	54539	768.00	
0142			40228	J F W INDUSTRIES	08306	05-08-80	C 05-80		10	54560	18.80	
0142			10971	RAY BRISTOW CO	114458	05-21-80	C 05-80		10	54561	182.48	
0142			38035	IN-MAR SALES INC	23902	05-09-80	C 05-80		10	54562	62.25	
0142			60000	PARAMOUNT SUPPLY CO	35522	05-19-80	P 05-80		10	54563	2,086.49	
0142			60000	PARAMOUNT SUPPLY CO	35634	05-22-80	P 05-80		10	54563	344.32	
0142			60000	PARAMOUNT SUPPLY CO	35971	05-22-80	P 05-80		10	54563	266.68	
0142			60000	PARAMOUNT SUPPLY CO	36207	05-22-80	P 05-80		10	54563	764.73	
0142			60000	PARAMOUNT SUPPLY CO	36530	05-30-80	P 05-80		10	54563	106.18	
0142			60000	PARAMOUNT SUPPLY CO	36941	05-30-80	C 05-80		10	54563	193.80	
0142			27920	FAMILIAN NORTHWEST INC	01401974	05-14-80	P 05-80		10	54571	1,404.15	
0142			27920	FAMILIAN NORTHWEST INC	01401975	05-14-80	C 05-80		10	54571	251.30	
0142			64120	QUIMBY WELDING SUPPLIES	11970	05-08-80	C 05-80		10	54572	62.50	
0142			60000	PARAMOUNT SUPPLY CO	35535	05-13-80	C 05-80		10	54573	154.70	
0142			10971	RAY BRISTOW CO	114041	05-15-80	C 05-80		10	54574	439.20	
0142			62380	PORTLAND ELECTRIC & PLUM	067929	05-08-80	C 05-80		10	54577	3,513.60	
0142			10971	RAY BRISTOW CO	114162	05-16-80	C 05-80		10	54597	512.45	
0142			16938	COAST INDUSTRIAL SUPPLY	86700	05-12-80	C 05-80		10	54598	2,419.64	
0142			60000	PARAMOUNT SUPPLY CO	35696	05-19-80	C 05-80		10	54599	307.40	
0142			62380	PORTLAND ELECTRIC & PLUM	P02693	05-12-80	C 05-80		10	54612	1,144.70	
0142			61980	PIONEER STERILIZED WIPIN	65195	05-13-80	C 05-80		10	54613	275.00	
0142			38035	IN-MAR SALES INC	23954	05-13-80	C 05-80		10	54614	177.12	
0142			10971	RAY BRISTOW CO	114250	05-20-80	C 05-80		10	54615	108.93	
0142			60000	PARAMOUNT SUPPLY CO	35819	05-19-80	P 05-80		10	54616	1,309.03	
0142			60000	PARAMOUNT SUPPLY CO	35837	05-22-80	P 05-80		10	54616	124.07	
0142			55474	NW MEDICAL SUPPLY	0033045	05-14-80	P 05-80		10	54629	118.08	
0142			55474	NW MEDICAL SUPPLY	003334980	05-28-80	C 05-80		10	54629	118.08	
0142			16938	COAST INDUSTRIAL SUPPLY	87089	05-15-80	C 05-80		10	54643	174.70	
0142			40228	J F W INDUSTRIES	08384	05-21-80	C 05-80		10	54644	191.30	
0142			62380	PORTLAND ELECTRIC & PLUM	P02801	05-13-80	C 05-80		10	54645	300.12	
0142			64120	QUIMBY WELDING SUPPLIES	12339	05-13-80	C 05-80		10	54646	183.30	
0142			60000	PARAMOUNT SUPPLY CO	35868	05-19-80	P 05-80		10	54648	1,975.88	
0142			60000	PARAMOUNT SUPPLY CO	36040	05-22-80	P 05-80		10	54648	280.58	
0142			60000	PARAMOUNT SUPPLY CO	36123	05-22-80	P 05-80		10	54648	49.25	
0142			60000	PARAMOUNT SUPPLY CO	36206	05-30-80	P 05-80		10	54648	76.79	
0142			10971	RAY BRISTOW CO	114793	05-23-80	C 05-80		10	54649	215.52	
0142			10971	RAY BRISTOW CO	114831	05-24-80	P 05-80		10	54649	260.94	

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0142			10971	RAY BRISTOW CO	114249	05-20-80	A 05-80		10	54674	133.61	
0142			60000	PARAMOUNT SUPPLY CO	36081	05-22-80	P 05-80		10	54676	108.72	
0142			60000	PARAMOUNT SUPPLY CO	36124	05-28-80	C 05-80		10	54676	37.23	
0142			61980	PIONEER STERILIZED WIPIN	65238	05-21-80	C 05-80		10	54678	3,000.00	
0142			56850	OMEGA DISTRIBUTING	7240	05-15-80	C 05-80		10	54681	340.00	
0142			16938	COAST INDUSTRIAL SUPPLY	87449	05-20-80	C 05-80		10	54686	171.61	
0142			60000	PARAMOUNT SUPPLY CO	36164	05-22-80	P 05-80		10	54687	166.08	
0142			60000	PARAMOUNT SUPPLY CO	36382	05-28-80	C 05-80		10	54687	14.06	
0142			10971	RAY BRISTOW CO	112879	05-27-80	C 05-80		10	54688	48.80	
0142			58630	PACIFIC MACHINERY & TOOL	12148	05-16-80	C 05-80		10	54689	34.20	
0142			40228	J F W INDUSTRIES	08393	05-21-80	C 05-80		10	54690	12.50	
0142			70803	GEORGE SHORT CO	38449	05-23-80	C 05-80		10	54691	986.80	
0142			57612	OREGON WIRE PRODUCTS	027267	05-19-80	C 05-80		10	54709	112.20	
0142			37220	KEN HUMKE	29089	05-19-80	C 05-80		10	54711	391.20	
0142			10971	RAY BRISTOW CO	114830	05-24-80	P 05-80		10	54719	334.47	
0142			10971	RAY BRISTOW CO	113011	05-30-80	C 05-80		10	54719	244.03	
0142			16938	COAST INDUSTRIAL SUPPLY	87508	05-21-80	C 05-80		10	54720	45.48	
0142			57612	OREGON WIRE PRODUCTS	027292	05-19-80	C 05-80		10	54721	536.23	
0142			40228	J F W INDUSTRIES	08332	05-29-80	C 05-80		10	54722	108.13	
0142			60000	PARAMOUNT SUPPLY CO	36245	05-22-80	P 05-80		10	54724	970.24	
0142			60000	PARAMOUNT SUPPLY CO	36379	05-28-80	C 05-80		10	54724	94.48	
0142			60000	PARAMOUNT SUPPLY CO	36399	05-28-80	P 05-80		10	54739	149.06	
0142			60000	PARAMOUNT SUPPLY CO	36365	05-22-80	P 05-80		10	54739	1,095.40	
0142			10971	RAY BRISTOW CO	114832	05-24-80	C 05-80		10	54740	449.09	
0142			60000	PARAMOUNT SUPPLY CO	36435	05-22-80	C 05-80		10	54754	25.00	
0142			16938	COAST INDUSTRIAL SUPPLY	87888	05-27-80	P 05-80		10	54758	1,690.85	
0142			16938	COAST INDUSTRIAL SUPPLY	88391	05-30-80	P 05-80		10	54758	215.90	
0142			38035	IN-MAR SALES INC	24109	05-23-80	C 05-80		10	54760	100.86	
0142			48130	MARINERS SUPPLY CO INC	1571	05-22-80	C 05-80		10	54762	30.72	
0142			38035	IN-MAR SALES INC	24205	06-03-80	C 05-80		10	54784	69.19	
0142			60000	PARAMOUNT SUPPLY CO	36636	05-30-80	P 05-80		10	54786	192.30	
0142			60000	PARAMOUNT SUPPLY CO	37042	05-30-80	C 05-80		10	54786	73.53	
0142			10971	RAY BRISTOW CO	116291	05-30-80	C 05-80		10	54788	13.80	
0142			67360	ROSE CITY AWNING	27165	05-23-80	C 05-80		10	54789	1,058.40	
0142			60000	PARAMOUNT SUPPLY CO	36901	05-30-80	P 05-80		10	54815	1,852.66	
0142			10200	BORIENT WOOD PRODUCTS	8821	05-29-80	C 05-80		10	54830	546.48	
0142			38035	IN-MAR SALES INC	24218	06-02-80	P 05-80		10	54838	269.64	
0142			38035	IN-MAR SALES INC	24269	06-03-80	C 05-80		10	54880	118.08	
0142			50700	HILL & POWER SPECIALTIES	16443	06-02-80	C 05-80		10	54881	156.60	
0142			08440	BEARINGS INC	P049328	05-05-80	P 05-80		10	55039	38.45	
0142			84450	M C WINKS HARDWARE	17342	05-01-80	C 05-80		10	55043	283.62	
0142			74480	SYSTEM 99 SSTN	1233567	05-27-80	A 05-80		28	55060	40.47	
0142			83821	WESTERN STUD WELDING	6099	05-27-80	C 05-80		10	55060	5,645.34	
0142			04470	AMERICAN STEEL	41538	05-06-80	C 05-80		10	55062	280.77	
0142			32360	GERRARD SALES & SERVICE	713	05-06-80	C 05-80		10	55063	452.80	
0142			04470	AMERICAN STEEL	41613	05-06-80	C 05-80		10	55151	153.34	
0142			74880	TAYLOR ELECTRIC SUPPLY	115337	05-06-80	P 05-80		10	55154	41.70	
0142			74880	TAYLOR ELECTRIC SUPPLY	116029	05-06-80	P 05-80		10	55154	7.04	
0142			74880	TAYLOR ELECTRIC SUPPLY	115336	05-08-80	P 05-80		10	55154	313.64	

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0142			74880	TAYLOR ELECTRIC SUPPLY	116030	05-12-80	P 05-80		10	55154	7.83	
0142			74880	TAYLOR ELECTRIC SUPPLY	116028	05-21-80	P 05-80		10	55154	25.11	
0142			74880	TAYLOR ELECTRIC SUPPLY	115338	05-06-80	P 05-80		10	55156	25.30	
0142			74880	TAYLOR ELECTRIC SUPPLY	116027	05-08-80	C 05-80		10	55156	35.42	
0142			63680	PRIESTLEY OIL & CHEMICAL	28744	05-07-80	C 05-80		10	55171	1,977.25	
0142			74880	TAYLOR ELECTRIC SUPPLY	116162	05-12-80	P 05-80		10	55174	360.99	
0142			74880	TAYLOR ELECTRIC SUPPLY	116163	05-09-80	P 05-80		10	55174	263.52	
0142			74880	TAYLOR ELECTRIC SUPPLY	116357	05-12-80	P 05-80		10	55174	12.45	
0142			74880	TAYLOR ELECTRIC SUPPLY	116933	05-13-80	P 05-80		10	55174	19.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	116935	05-15-80	P 05-80		10	55174	84.33	
0142			74880	TAYLOR ELECTRIC SUPPLY	117421	05-16-80	P 05-80		10	55174	9.08	
0142			74880	TAYLOR ELECTRIC SUPPLY	116431	05-22-80	P 05-80		10	55174	11.92	
0142			74880	TAYLOR ELECTRIC SUPPLY	116434	05-22-80	P 05-80		10	55174	1.40	
0142			81169	VAN WATERS & ROGERS	020500501	05-08-80	C 05-80		10	55186	136.25	
0142			68920	SANDERSON SAFETY SUPPLY	24543	05-08-80	C 05-80		10	55253	213.00	
0142			59800	PALM ABRASIVE & TOOL CO	52169	05-20-80	P 05-80		10	55434	86.80	
0142			74880	TAYLOR ELECTRIC SUPPLY	117463	05-15-80	P 05-80		10	55438	1,115.64	
0142			74880	TAYLOR ELECTRIC SUPPLY	117954	05-16-80	P 05-80		10	55438	90.45	
0142			74880	TAYLOR ELECTRIC SUPPLY	117615	05-29-80	P 05-80		10	55438	75.00	
0142			38035	IN-MAR SALES INC	24000	05-15-80	C 05-80		10	55471	89.76	
0142			38035	IN-MAR SALES INC	24051	05-22-80	C 05-80		10	55498	946.58	
0142			48130	MARINERS SUPPLY CO INC	1550	05-20-80	C 05-80		10	55562	55.25	
0142			16938	COAST INDUSTRIAL SUPPLY	87588	05-22-80	C 05-80		10	55594	2,077.60	
0142			48130	MARINERS SUPPLY CO INC	1559	05-20-80	C 05-80		10	55616	324.25	
0142			04470	AMERICAN STEEL	43765	05-22-80	C 05-80		10	55657	65.31	
0142			58630	PACIFIC MACHINERY & TOOL	12461	05-21-80	C 05-80		10	55658	11.79	
0142			66960	RODDA PAINT CO	68418	05-21-80	C 05-80		10	55659	81.60	
0142			81169	VAN WATERS & ROGERS	020502227	05-22-80	C 05-80		10	55660	2,002.35	
0142			60000	PARAMOUNT SUPPLY CO	36443	05-22-80	P 05-80		10	55668	287.47	
0142			32360	GERRARD SALES & SERVICE	1011	05-22-80	C 05-80		10	55678	452.80	
0142			74880	TAYLOR ELECTRIC SUPPLY	118884	05-23-80	P 05-80		10	55679	247.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	119097	05-29-80	C 05-80		10	55679	66.00	
0142			48130	MARINERS SUPPLY CO INC	1569	05-22-80	C 05-80		10	55691	520.50	
0142			01120	ABBOTT & LIND INC	90698	05-29-80	P 05-80		10	55715	36.75	
0142			38035	IN-MAR SALES INC	24161	05-28-80	C 05-80		10	55738	332.80	
0142			62250	POPE RIGGING LOFT INC	12219	05-30-80	C 05-80		10	55795	440.00	
0142			47820	MAR-INDUSTRIAL SALES INC	07048	05-28-80	C 05-80		10	55848	400.26	
0142			25886	WALLY EMERSON	PC-PETTYCASH	05-07-80	C 05-80		60		20.22	
0142			25886	WALLY EMERSON	PC-PETTYCASH	05-30-80	C 05-80		60		7.06	
0142			62270	PORT OF PORTLAND	87204A	04-08-80	C 05-80		99		31,485.49	
0142			70690	AL SHEVELAND	88F05936	04-30-80	C 05-80		99		34.19	
0142			70690	AL SHEVELAND	88F02915	05-28-80	C 05-80		99		109.05	
ACCOUNT TOTAL *****											188,835.82	✓
0144			57331	OREGON STATE OF	88F00470	05-05-80	C 05-80		99		850.20	
ACCOUNT TOTAL *****											850.20	✓
0145			16080	CHOWN HARDWARE	38084	01-18-80	C 05-80		10	48351	197.17	



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0145			59800	PALM ABRASIVE & TOOL CO	46325	05-15-80	A	05-80	10	48543	22.50	
0145			33270	MW GRAINGER INC #624	785997	03-28-80	C	05-80	10	48617	33.63	
0145			64120	QUIMBY WELDING SUPPLIES	C03491	04-17-80	A	05-80	05-05-80	10	48672	15.50
0145			64120	QUIMBY WELDING SUPPLIES	C03692	04-07-80	A	05-80	05-05-80	10	48672	95.00
0145			64120	QUIMBY WELDING SUPPLIES	C04053	04-14-80	A	05-80	05-05-80	10	48672	95.00
0145			64120	QUIMBY WELDING SUPPLIES	C04096	04-21-80	A	05-80	05-05-80	10	48672	116.90
0145			64120	QUIMBY WELDING SUPPLIES	C04428	04-28-80	A	05-80	05-05-80	10	48672	64.24
0145			31645	GENERAL TOOL & SUPPLY CO	43087	04-16-80	C	05-80	10	48697	7.85	
0145			31645	GENERAL TOOL & SUPPLY CO	43425	04-16-80	C	05-80	10	48711	51.00	
0145			59800	PALM ABRASIVE & TOOL CO	30042	04-30-80	C	05-80	10	48737	532.60	
0145			59800	PALM ABRASIVE & TOOL CO	50100	04-30-80	C	05-80	10	48747	532.60	
0145			64120	QUIMBY WELDING SUPPLIES	11170	04-29-80	C	05-80	10	48753	221.40	
0145			33270	MW GRAINGER INC #624	624792792	04-29-80	C	05-80	10	48755	20.19	
0145			34360	HALL TOOL CO	08415	04-29-80	C	05-80	10	48758	26.66	
0145			01328	ABRASIVE SPECIALTIES INC	3314	05-08-80	C	05-80	10	48767	196.00	
0145			64120	QUIMBY WELDING SUPPLIES	C04623	05-05-80	P	05-80	10	48769	59.00	
0145			64120	QUIMBY WELDING SUPPLIES	C05115	05-19-80	P	05-80	10	48769	59.00	
0145			64120	QUIMBY WELDING SUPPLIES	C05431	05-22-80	P	05-80	10	48769	41.00	
0145			64120	QUIMBY WELDING SUPPLIES	C05168	05-28-80	P	05-80	10	48769	113.00	
0145			59800	PALM ABRASIVE & TOOL CO	30746	05-08-80	C	05-80	10	48774	70.95	
0145			31645	GENERAL TOOL & SUPPLY CO	46489	05-12-80	C	05-80	10	48794	68.51	
0145			25350	ELECTRICAL CONSTRUCTION	IC-871051	05-09-80	C	05-80	10	48803	143.90	
0145			45960	LINDSAY ENTERPRISES INC	4290	05-13-80	P	05-80	10	48817	320.50	
0145			45960	LINDSAY ENTERPRISES INC	4436	05-16-80	C	05-80	10	48817	411.40	
0145			64120	QUIMBY WELDING SUPPLIES	12827	05-20-80	C	05-80	10	48841	33.55	
0145			64120	QUIMBY WELDING SUPPLIES	13027	05-23-80	C	05-80	10	48855	153.20	
0145			31645	GENERAL TOOL & SUPPLY CO	47779	05-23-80	C	05-80	10	48856	102.45	
0145			38600	INDUSTRIAL SPECIALTIES	6314	05-29-80	C	05-80	10	48857	53.43	
0145			59800	PALM ABRASIVE & TOOL CO	53257	05-30-80	C	05-80	10	48870	94.26	
0145			62270	PORT OF PORTLAND	87204A	04-08-80	C	05-80	99		1,061.30	
0145			59800	PALM ABRASIVE & TOOL CO	CM-52566	05-27-80	C	05-80	10	R1113	22.50-	
ACCOUNT TOTAL *****											5,011.19 ✓	
0146			27710	PAFNR BEARING DIV	2099109	05-22-80	P	05-80	10	34728	75.54	
0146			13100	CRB MFG COMPANY	12775	05-23-80	C	05-80	10	54735	794.25	
0146			64053	VANCE PUTNAM	PC-MH8EPC	05-01-80	C	05-80	60		8.40	
0146			43355	KING BEARING INC	CM-9534990	05-27-80	C	05-80	10	R2872	168.10-	
ACCOUNT TOTAL *****											710.09 ✓	
0148			08440	BEARINGS INC	P048766	04-28-80	P	05-80	10	54227	13.92	
0148			08440	BEARINGS INC	P049311	04-30-80	C	05-80	10	54227	13.48	
0148			33040	GOODYEAR RUBBER & SUPPLY	02866	05-09-80	C	05-80	10	54594	87.50	
0148			43355	KING BEARING INC	9516126	05-14-80	C	05-80	10	54595	183.15	
0148			05820	ARTS BEARING&ING SUPPLY	1540	05-20-80	C	05-80	10	54661	2,128.00	
ACCOUNT TOTAL *****											2,426.05 ✓	
0149			04470	AMERICAN STEEL	CM-41502	05-14-80	A	05-80	10	48648	1,585.37-	

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0149			64120	QUIMBY WELDING SUPPLIES	C04428	04-28-80	P	05-80		10 48672	64.24	
0149			64120	QUIMBY WELDING SUPPLIES	C03491	04-17-80	A	05-80	05-05-80	10 48672	15.50-	
0149			64120	QUIMBY WELDING SUPPLIES	C03692	04-07-80	A	05-80	05-05-80	10 48672	95.00-	
0149			64120	QUIMBY WELDING SUPPLIES	C04053	04-14-80	A	05-80	05-05-80	10 48672	95.00-	
0149			64120	QUIMBY WELDING SUPPLIES	C04096	04-21-80	A	05-80	05-05-80	10 48672	116.90-	
0149			64120	QUIMBY WELDING SUPPLIES	C04428	04-28-80	A	05-80	05-05-80	10 48672	64.24-	
0149			64120	QUIMBY WELDING SUPPLIES	11169	04-29-80	C	05-80		10 48752	37.60	
0149			10971	RAY BRISTOW CO	102000	05-15-80	C	05-80		10 48762	79.96	
0149			10971	RAY BRISTOW CO	101998	05-15-80	C	05-80		10 48763	24.47	
0149			31645	GENERAL TOOL & SUPPLY CO	45933	05-05-80	C	05-80		10 48768	144.20	
0149			64120	QUIMBY WELDING SUPPLIES	11899	05-07-80	C	05-80		10 48789	12.47	
0149			72259	STACK STEEL & SUPPLY CO	P10260	05-16-80	C	05-80		10 48818	324.93	
0149			64120	QUIMBY WELDING SUPPLIES	12954	05-22-80	C	05-80		10 48850	132.78	
0149			49383	LEO MCENNERNEY	PC-PETTYCASH	05-12-80	C	05-80		60	9.00	
ACCOUNT TOTAL *****											1,142.36-	
0167			48445	MARSH & MCLENNAN INC	46434	05-28-80	C	05-80		99	3,888.00	
0167			48445	MARSH & MCLENNAN INC	46434	05-28-80	C	05-80		99	1,672.00	
ACCOUNT TOTAL *****											5,560.00	
0169			18485	CONSOLIDATED FREIGHTWAYS	REFUND	03-24-80	A	05-80	05-16-80	99	97.98	
0169			28596	FIRST NATL BANK OF OR	DDF10234	05-19-80	C	05-80		99	20,000.00	
0169			28596	FIRST NATL BANK OF OR	DDF10207	05-29-80	C	05-80		99	15,000.00	
0169			40800	JET EQUIPMENT & TOOLS	P048372	02-26-80	C	05-80	05-16-80	99	2.30	
0169			74840	TAYLOR & ASSOCIATES	93962	01-24-80	C	05-80	05-16-80	99	19.60	
0169			84321	WILLAMETTE PRINTBLUEPRT	86390	01-17-80	C	05-80	05-16-80	99	223.00	
ACCOUNT TOTAL *****											35,342.88	
0180			62500	PORTLAND MACHINERY	IC-71884C	04-21-80	A	05-80		10 46784	123.53	
0180			62500	PORTLAND MACHINERY	IC-71886D	05-15-80	A	05-80		10 46784	8.67	
0180			62500	PORTLAND MACHINERY	IC-71884C	05-06-80	P	05-80		10 46785	773.42	
0180			62500	PORTLAND MACHINERY	IC-71884D	05-15-80	C	05-80		10 46785	305.58	
0180			62500	PORTLAND MACHINERY	IC-71848H	04-01-80	A	05-80		10 46802	196.80	
0180			62500	PORTLAND MACHINERY	IC-CM71848D	04-29-80	A	05-80		10 46802	196.80-	
0180			08870	F E BENNETT CO	B3581	05-20-80	C	05-80		10 47115	3,240.03	
0180			08870	F E BENNETT CO	B3104	05-20-80	P	05-80		10 47115	830.00	
0180			78430	TRADE X	8011407060	04-23-80	A	05-80		28 47817	27.28	
0180			39155	INTERNATIONAL TOOL	12553	03-19-80	C	05-80		10 53881	4,250.00	
0180			01120	ABBOTT & LIND INC	90576	05-09-80	C	05-80		10 53995	2,046.20	
ACCOUNT TOTAL *****											13,604.71	
0181			18485	CONSOLIDATED FREIGHTWAYS	970240386	05-21-80	P	05-80		28 55278	518.51	
0181			25910	EMERY AIR FREIGHT	8916910	05-19-80	P	05-80		28 55278	27.99	
0181			74880	TAYLOR ELECTRIC SUPPLY	116813	05-14-80	C	05-80		10 55365	578.42	
ACCOUNT TOTAL *****											1,124.92	

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0131			63825	PRUDENTIAL INSURANCE CO	93765H	8-01-79	C	8-79	99		20.98	
0131			57055	OREGON DENTAL SERVICE	3089AUG	8-01-79	C	8-79	99		138.07	
0131			80131	UNITED PARCEL SERVICE	03830	8-11-79	C	8-79	28		3.36	
0131			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		15.00	
0131			57337	OREGON STATE OF	DDF6942	8-17-79	C	8-79	99		.63	
0131			28596	FIRST NAT BANK OF OR	TRUSTEESFE	7-30-79	C	8-79	60		219.12	
0131			80330	U S POSTMASTER	DDF1856	8-02-79	C	8-79	99		59.96	
ACCOUNT TOTAL *****												1,893.78
0132			61780	PINKERTONS INC	S677	7-31-79	C	8-79	10	39291	302.64	
0132			82421	WASHINGTON STATE OF	DDF6941	8-17-79	C	8-79	99		8.75	
0132			28596	FIRST NAT BANK OF OR	TRUSTEESFE	7-30-79	C	8-79	60		397.54	
0132			57337	OREGON STATE OF	DDF6942	8-17-79	C	8-79	99		145.81	
0132			57055	OREGON DENTAL SERVICE	3089AUG	8-01-79	C	8-79	99		455.11	
0132			37265	HUNTER DOUGLAS MACHINERY	CK8098	5-25-79	C	8-79	99	8-20-79	105,800.00-	
0132			61722	PIHAS SCHMIDT WESTERDAHL	4455	8-08-79	C	8-79	70		693.87	
0132			63825	PRUDENTIAL INSURANCE CO	93765H	8-01-79	C	8-79	99		77.25	
0132			66975	HEATHER RODDY	CK16589	8-15-79	A	8-79	99	8-20-79	105.75-	
0132			72630	STANDARD INSURANCE CO	30852101	8-01-79	C	8-79	99		589.40	
0132			80330	U S POSTMASTER	DDF1856	8-02-79	C	8-79	99		243.77	
ACCOUNT TOTAL *****												102,991.61-
0135			28596	FIRST NAT BANK OF OR	CK14010	6-30-79	A	8-79	99	8-24-79	526.19-	
0135			28596	FIRST NAT BANK OF OR	TRUSTEESFE	7-30-79	C	8-79	60		748.41	
0135			57055	OREGON DENTAL SERVICE	3089AUG	8-01-79	C	8-79	99		864.20	
0135			63825	PRUDENTIAL INSURANCE CO	93765H	8-01-79	C	8-79	99		149.74	
0135			72630	STANDARD INSURANCE CO	30852101	8-01-79	C	8-79	99		1,145.59	
0135			80330	U S POSTMASTER	DDF1856	8-02-79	C	8-79	99		18.90	
ACCOUNT TOTAL *****												2,400.65
0136			44800	LANE-MILES STANDISH CO	022418	8-03-79	P	8-79	10	39764	251.10	
0136			72630	STANDARD INSURANCE CO	30852101	8-01-79	C	8-79	99		307.15	
0136			06287	ATLAS IRON WORKS	DAF900874	7-02-79	C	8-79	99	8-21-79	5,000.00	
0136			80330	U S POSTMASTER	DDF1856	8-02-79	C	8-79	99		36.69	
0136			57055	OREGON DENTAL SERVICE	3089AUG	8-01-79	C	8-79	99		301.70	
0136			56647	OLES MORRISON RINKER	ATLASECCO	7-18-79	C	8-79	99		125.51	
0136			80055	UNITED AIRLINES 044131	04413	7-31-79	C	8-79	50		198.00	
0136			57292	ORE PHYSICIANS SERVICE	AUGUST	8-01-79	C	8-79	99		115.00	
0136			61722	PIHAS SCHMIDT WESTERDAHL	4455	8-08-79	C	8-79	70		36.50	
0136			63825	PRUDENTIAL INSURANCE CO	93765H	8-01-79	C	8-79	99		65.81	
ACCOUNT TOTAL *****												6,437.46
0140			03762	AMERICAN BUREAU OF SHPG	346157	8-03-79	A	8-79	20	38128	47.00	
0140			02470	AIRWELD	126063	6-29-79	C	8-79	10	38900	1,118.79	
0140			72260	STACK STEEL & SUPPLY CO	P01998	7-25-79	C	8-79	10	38920	231.87	
0140			57612	OREGON WIRE PRODUCTS	20215	6-19-79	C	8-79	10	39202	37.50	
0140			57354	OREGON STEEL MILLS	67425	8-08-79	P	8-79	20	39248	2,392.70	
0140			57354	OREGON STEEL MILLS	67070	8-03-79	P	8-79	20	39248	5,092.01	
0140			57354	OREGON STEEL MILLS	67426	8-08-79	P	8-79	20	39248	7,342.97	

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0140			57354	OREGON STEEL MILLS	68074	8-16-79 P	8-79		20	39248	2,333.81	
0140			84231	WILHELM TRUCKING CO	78779	8-09-79 P	8-79		28	39248	280.65	
0140			57354	OREGON STEEL MILLS	68077	8-16-79 P	8-79		20	39248	3,545.53	
0140			84231	WILHELM TRUCKING CO	78841	8-10-79 P	8-79		28	39248	220.51	
0140			57354	OREGON STEEL MILLS	67896	8-15-79 P	8-79		20	39248	3,442.63	
0140			57354	OREGON STEEL MILLS	67895	8-15-79 P	8-79		20	39248	3,263.77	
0140			57354	OREGON STEEL MILLS	67424	8-08-79 P	8-79		20	39248	280.04	
0140			57354	OREGON STEEL MILLS	38089	8-08-79 P	8-79		20	39248	7,401.52	
0140			57354	OREGON STEEL MILLS	67349	8-07-79 P	8-79		20	39248	6,749.02	
0140			84231	WILHELM TRUCKING CO	79081	8-16-79 P	8-79		28	39248	271.74	
0140			57354	OREGON STEEL MILLS	68076	8-16-79 P	8-79		20	39248	1,404.78	
0140			84231	WILHELM TRUCKING CO	78649	8-07-79 P	8-79		28	39248	98.04	
0140			57354	OREGON STEEL MILLS	67348	8-07-79 P	8-79		10	39248	840.30	
0140			57354	OREGON STEEL MILLS	38050	8-03-79 P	8-79		20	39248	5,727.34	
0140			84231	WILHELM TRUCKING CO	78707	8-08-79 P	8-79		28	39248	98.04	
0140			84231	WILHELM TRUCKING CO	78842	8-10-79 P	8-79		28	39248	106.95	
0140			57354	OREGON STEEL MILLS	68075	8-16-79 P	8-79		20	39248	1,633.73	
0140			57354	OREGON STEEL MILLS	67894	8-15-79 P	8-79		20	39248	2,327.88	
0140			84231	WILHELM TRUCKING CO	79136	8-17-79 P	8-79		28	39248	196.08	
0140			57354	OREGON STEEL MILLS	67071	8-03-79 P	8-79		20	39248	3,214.04	
0140			57354	OREGON STEEL MILLS	38049	8-07-79 P	8-79		20	39248	3,272.59	
0140			80478	US STEEL CORP	29318604	8-09-79 P	8-79		20	39249	2,628.05	
0140			80478	US STEEL CORP	29318605	8-09-79 P	8-79		20	39249	6,445.90	
0140			27530	FB TRUCK LINE CO	515540	8-08-79 P	8-79		28	39249	802.48	
0140			58630	PACIFIC MACHINERY & TOOL	83393	7-17-79 C	8-79		10	39545	80.61	
0140			04470	AMERICAN STEEL	81326	7-31-79 C	8-79		10	39591	355.22	
0140			04470	AMERICAN STEEL	81781	7-30-79 C	8-79		10	39642	180.29	
0140			27920	FAMILIAN NORTHWEST INC	01348689	7-24-79 C	8-79		10	39650	20.00	
0140			10971	RAY BRISTOW CO	87405	7-27-79 C	8-79		10	39652	27.45	
0140			83530	WESTERN FOUNDRY CO	4318	7-31-79 C	8-79		10	39670	162.05	
0140			02430	AIRCO WELDING SUPPLY	1763	7-27-79 C	8-79		10	39687	414.72	
0140			24890	EDWARDS BLDG SUPPLY INC	1016	8-06-79 C	8-79		10	39688	1,794.54	
0140			08440	BEARINGS INC	P027462	7-31-79 C	8-79		10	39706	329.00	
0140			73330	STEEL PRODUCTS CO	1644	7-27-79 A	8-79	8-02-79	10	39713	124.70-	
0140			44575	LA GRAND STEEL PRODUCTS	1644	7-27-79 C	8-79		10	39713	124.70	
0140			55389	NORTHERN AIR FREIGHT	SEA007878	7-26-79 P	8-79		28	39714	56.05	
0140			27238	EUTECTIC CORP	1920327	7-30-79 C	8-79		10	39714	286.00	
0140			04470	AMERICAN STEEL	82517	7-31-79 C	8-79		10	39730	182.28	
0140			10971	RAY BRISTOW CO	90132	7-31-79 P	8-79		10	39732	54.85	
0140			04470	AMERICAN STEEL	82736	8-01-79 C	8-79		10	39742	214.84	
0140			58630	PACIFIC MACHINERY & TOOL	84591	7-30-79 C	8-79		10	39748	6.92	
0140			02720	ALASKAN COPPER & BRASS	4196301	8-07-79 C	8-79		10	39752	348.33	
0140			04470	AMERICAN STEEL	83190	8-07-79 C	8-79		10	39772	400.58	
0140			37220	KEN R HUMKE	61153	8-01-79 C	8-79		10	39780	31.24	
0140			02720	ALASKAN COPPER & BRASS	4284201	8-08-79 C	8-79		10	39809	243.49	
0140			04470	AMERICAN STEEL	83476	8-14-79 C	8-79		10	39815	603.28	
0140			73330	STEEL PRODUCTS CO	1814	8-03-79 C	8-79		10	39817	193.70	
0140			44575	LA GRAND STEEL PRODUCTS	1814	8-03-79 C	8-79		10	39817	193.70	
0140			73330	STEEL PRODUCTS CO	DAF1814	8-03-79 A	8-79	8-09-79	10	39817	193.70-	
0140			48720	MARWOOD LIMITED	P040605	8-03-79 C	8-79		10	39819	36.75	
0140			63680	PRIESTLEY OIL & CHEMICAL	17141	8-03-79 C	8-79		10	39836	121.00	
0140			10971	RAY BRISTOW CO	90676	8-08-79 C	8-79		10	39843	296.30	
0140			37220	KEN R HUMKE	61641	8-15-79 C	8-79		10	39869	67.63	

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0140			58630	PACIFIC MACHINERY & TOOL	85257	8-06-79	C	8-79		10 39873	284.29	
0140			61225	PETERSEN INDUSTRIAL PROD	99855	8-09-79	C	8-79		10 39877	104.00	
0140			25639	ELLIOTT SALES	27973391	8-06-79	C	8-79		10 39898	67.80	
0140			25639	ELLIOTT SALES	28243414	8-13-79	C	8-79		10 39909	122.25	
0140			32700	GLIDDEN-DURKEE DIV SCM	15231794	8-14-79	C	8-79		10 39910	90.04	
0140			58630	PACIFIC MACHINERY & TOOL	85369	8-07-79	C	8-79		10 39916	7.40	
0140			10971	RAY BRISTOW CO	88177	8-10-79	C	8-79		10 39918	16.25	
0140			10971	RAY BRISTOW CO	89433	8-16-79	C	8-79		10 39936	132.64	
0140			80480	U S STEEL SUPPLY	69150927	8-13-79	A	8-79	8-23-79	10 39940	60.26	
0140			80480	U S STEEL SUPPLY	69150927	8-13-79	C	8-79		10 39940	60.26	
0140			80478	US STEEL CORP	69150927	8-13-79	C	8-79		10 39940	60.26	
0140			16938	COAST INDUSTRIAL SUPPLY	65358	8-14-79	C	8-79		10 39986	46.67	
0140			04470	AMERICAN STEEL	84950	8-16-79	C	8-79		10 39987	6.88	
0140			45960	LINDSAY ENTERPRISES INC	10528	8-23-79	C	8-79		10 39994	12.00	
0140			73030	STARK & NORRIS CO	7771	8-13-79	C	8-79		10 42007	426.00	
0140			25639	ELLIOTT SALES	28233413	8-13-79	C	8-79		10 42015	371.20	
0140			83530	WESTERN FOUNDRY CO	4537	8-15-79	C	8-79		10 42024	165.80	
0140			58630	PACIFIC MACHINERY & TOOL	86485	8-20-79	P	8-79		10 42042	146.60	
0140			02430	AIRCO WELDING SUPPLY	2656	8-15-79	C	8-79		10 42056	45.00	
0140			50250	METRA STEEL CO	72959	8-17-79	C	8-79		10 42058	377.41	
0140			58630	PACIFIC MACHINERY & TOOL	86486	8-20-79	C	8-79		10 42094	17.50	
0140			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79		60	17.47	
0140			45950	BONNIE LINDNER	PC-8779	8-07-79	C	8-79		60	3.65	
0140			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79		60	4.09	
0140			45950	BONNIE LINDNER	PC-PETTYCASH	8-27-79	C	8-79		60	6.84	

ACCOUNT TOTAL \*\*\*\*\*

81,887.42

0141			53788	NATIONAL CHEMSEARCH	F25283	7-31-79	P	8-79		10 31855	464.21	
0141			62500	PORTLAND MACHINERY	IC-ADJ6928DA	7-15-79	A	8-79		10 36860	12.59	
0141			62500	PORTLAND MACHINERY	IC-ADJ69281A	7-15-79	A	8-79		10 36860	99.52	
0141			31645	GENERAL TOOL & SUPPLY CO	147520	7-25-79	C	8-79		10 38834	29.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A049856	7-30-79	C	8-79		10 38918	17.37	
0141			21070	DAVIS INDUSTRIAL PRODUCT	61207	8-07-79	A	8-79		10 38946	7.00	
0141			68920	SANDERSON SAFETY SUPPLY	68744	7-18-79	A	8-79		10 38990	182.00	
0141			68920	SANDERSON SAFETY SUPPLY	63095	8-01-79	A	8-79		10 38990	238.00	
0141			31645	GENERAL TOOL & SUPPLY CO	151111	7-24-79	C	8-79		10 39051	41.25	
0141			31645	GENERAL TOOL & SUPPLY CO	151396	8-15-79	P	8-79		10 39133	5.33	
0141			22641	DO ALL NORTHWEST CO	793040	8-15-79	C	8-79		10 39198	49.50	
0141			31645	GENERAL TOOL & SUPPLY CO	150143	8-15-79	P	8-79		10 39221	18.80	
0141			64120	QUIMBY WELDING SUPPLIES	51631	8-09-79	P	8-79		10 39229	333.60	
0141			31645	GENERAL TOOL & SUPPLY CO	148583	7-31-79	C	8-79		10 39311	112.20	
0141			72960	STAR MACHINERY	36474	8-01-79	A	8-79		10 39314	14.88	
0141			31645	GENERAL TOOL & SUPPLY CO	150699	8-06-79	C	8-79		10 39377	85.50	
0141			05640	ARONSON INDUSTRIAL SPLY	A050520	8-07-79	P	8-79		10 39381	386.40	
0141			64120	QUIMBY WELDING SUPPLIES	49339	7-12-79	A	8-79		10 39448	7,200.00	
0141			31645	GENERAL TOOL & SUPPLY CO	CM-CR35715	7-25-79	A	8-79		10 39472	24.84	
0141			31645	GENERAL TOOL & SUPPLY CO	149659	7-10-79	C	8-79		10 39472	156.84	
0141			38335	INDUSTRIAL GASKET INC	P45853	7-26-79	C	8-79		10 39477	287.64	
0141			45960	LINDSAY ENTERPRISES INC	9529	7-31-79	C	8-79		10 39482	321.10	
0141			59800	PALM ABRASIVE & TOOL CO	25820	7-31-79	P	8-79		10 39497	189.95	
0141			59800	PALM ABRASIVE & TOOL CO	27648	8-09-79	P	8-79		10 39497	32.40	
0141			59800	PALM ABRASIVE & TOOL CO	27647	8-09-79	P	8-79		10 39497	87.40	

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0141			59800	PALM ABRASIVE & TOOL CO	25819	7-31-79 P	8-79		10	39497	273.15	
0141			21070	DAVIS INDUSTRIAL PRODUCT	67787	7-25-79 P	8-79		10	39500	80.60	
0141			21070	DAVIS INDUSTRIAL PRODUCT	67113	7-18-79 P	8-79		10	39500	107.86	
0141			21070	DAVIS INDUSTRIAL PRODUCT	67114	7-18-79 P	8-79		10	39500	259.63	
0141			38640	INDUSTRIAL TOOL & SUPPLY	60119	8-01-79 P	8-79		10	39535	230.30	
0141			38640	INDUSTRIAL TOOL & SUPPLY	60490	8-01-79 C	8-79		10	39535	443.03	
0141			27920	FAMILIAN NORTHWEST INC	01276253	7-17-79 C	8-79		10	39540	219.60	
0141			05640	ARONSON INDUSTRIAL SPLY	A48869	7-17-79 C	8-79		10	39552	595.34	
0141			05640	ARONSON INDUSTRIAL SPLY	A051454	8-17-79 C	8-79		10	39565	160.74	
0141			05640	ARONSON INDUSTRIAL SPLY	A049855	7-30-79 P	8-79		10	39581	28.95	
0141			05640	ARONSON INDUSTRIAL SPLY	A50521	8-07-79 A	8-79		10	39581	32.34	
0141			05640	ARONSON INDUSTRIAL SPLY	A050327	8-02-79 P	8-79		10	39581	35.20	
0141			68920	SANDERSON SAFETY SUPPLY	71946	7-23-79 C	8-79		10	39597	244.00	
0141			21070	DAVIS INDUSTRIAL PRODUCT	68435	7-25-79 P	8-79		10	39616	21.38	
0141			21070	DAVIS INDUSTRIAL PRODUCT	68570	7-27-79 P	8-79		10	39616	80.46	
0141			13281	CALGON CORPORATION	571634	7-31-79 C	8-79		10	39624	414.59	
0141			64120	QUIMBY WELDING SUPPLIES	50520	8-02-79 C	8-79		10	39644	6.16	
0141			37220	KEN R HUMKE	60028	7-23-79 C	8-79		10	39654	82.32	
0141			31645	GENERAL TOOL & SUPPLY CO	155007	7-24-79 P	8-79		10	39657	6.80	
0141			31645	GENERAL TOOL & SUPPLY CO	153472	7-27-79 C	8-79		10	39657	29.50	
0141			31645	GENERAL TOOL & SUPPLY CO	155006	7-24-79 P	8-79		10	39657	69.57	
0141			47650	MALMBERG TOOL & FORGE	7928	7-25-79 C	8-79		10	39667	427.50	
0141			21070	DAVIS INDUSTRIAL PRODUCT	68861	7-25-79 P	8-79		10	39669	524.10	
0141			37960	IMPERIAL OIL & GREASE CO	328675	8-03-79 C	8-79		10	39671	357.05	
0141			78430	TRADE X	7922105394	8-08-79 A	8-79		28	39671	17.06	
0141			31645	GENERAL TOOL & SUPPLY CO	155031	7-24-79 C	8-79		10	39674	180.18	
0141			31645	GENERAL TOOL & SUPPLY CO	155032	7-24-79 C	8-79		10	39675	32.75	
0141			29908	FULLER BRUSH COMPANY	2119401	7-30-79 C	8-79		10	39697	301.20	
0141			45960	LINDSAY ENTERPRISES INC	9908	7-31-79 C	8-79		10	39698	10.36	
0141			74880	TAYLOR ELECTRIC SUPPLY	58647	7-27-79 C	8-79		10	39716	316.20	
0141			64120	QUIMBY WELDING SUPPLIES	50795	7-26-79 C	8-79		10	39717	123.06	
0141			37220	KEN R HUMKE	60351	7-27-79 P	8-79		10	39718	86.84	
0141			37220	KEN R HUMKE	60348	7-27-79 C	8-79		10	39718	130.60	
0141			05640	ARONSON INDUSTRIAL SPLY	H049832	7-30-79 C	8-79		10	39719	87.90	
0141			40228	J F W INDUSTRIES	6282	8-02-79 C	8-79		10	39722	581.59	
0141			31645	GENERAL TOOL & SUPPLY CO	155322	7-31-79 C	8-79		10	39723	332.16	
0141			31645	GENERAL TOOL & SUPPLY CO	155083	7-26-79 P	8-79		10	39723	497.19	
0141			21070	DAVIS INDUSTRIAL PRODUCT	69397	8-06-79 C	8-79		10	39726	44.85	
0141			21070	DAVIS INDUSTRIAL PRODUCT	89380	7-27-79 P	8-79		10	39726	26.24	
0141			37220	KEN R HUMKE	60380	7-30-79 C	8-79		10	39737	303.84	
0141			64120	QUIMBY WELDING SUPPLIES	50887	7-27-79 C	8-79		10	39738	110.40	
0141			31645	GENERAL TOOL & SUPPLY CO	155807	7-27-79 P	8-79		10	39740	255.04	
0141			31645	GENERAL TOOL & SUPPLY CO	155810	8-06-79 C	8-79		10	39740	90.60	
0141			59800	PALM ABRASIVE & TOOL CO	26902	7-31-79 C	8-79		10	39743	557.40	
0141			59800	PALM ABRASIVE & TOOL CO	26903	7-31-79 P	8-79		10	39743	267.72	
0141			38600	INDUSTRIAL SPECIALTIES	18796	7-30-79 C	8-79		10	39744	40.80	
0141			05640	ARONSON INDUSTRIAL SPLY	A049880	7-30-79 C	8-79		10	39749	635.10	
0141			55210	NO AMERICAN CARB-CORP	1076	7-24-79 C	8-79		10	39755	266.48	
0141			31645	GENERAL TOOL & SUPPLY CO	155860	7-31-79 C	8-79		10	39766	196.21	
0141			01328	ABRASIVE SPECIALTIES INC	2230	8-02-79 C	8-79		10	39777	429.66	
0141			64120	QUIMBY WELDING SUPPLIES	51221	7-31-79 P	8-79		10	39778	699.60	
0141			64120	QUIMBY WELDING SUPPLIES	51235	8-06-79 C	8-79		10	39778	52.50	
0141			60000	PARAMOUNT SUPPLY CO	11755	8-08-79 C	8-79		10	39781	187.20	

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0141			05640	ARONSON INDUSTRIAL SPLY	A050123	8-01-79	C	8-79		10 39782	141.32	
0141			31645	GENERAL TOOL & SUPPLY CO	152680	8-10-79	C	8-79		10 39783	205.00	
0141			31645	GENERAL TOOL & SUPPLY CO	155877	7-31-79	P	8-79		10 39783	819.70	
0141			47407	MACKINNON TOOL & MACHINE	76687	8-22-79	P	8-79		10 39820	165.07	
0141			63680	PRIESTLEY OIL & CHEMICAL	17141	8-03-79	C	8-79		10 39836	118.80	
0141			68920	SANDERSON SAFETY SUPPLY	73841	8-11-79	A	8-79		10 39841	10.60	
0141			68920	SANDERSON SAFETY SUPPLY	74107	8-03-79	C	8-79		10 39841	10.60	
0141			31645	GENERAL TOOL & SUPPLY CO	157330	8-02-79	P	8-79		10 39842	11.20	
0141			31645	GENERAL TOOL & SUPPLY CO	157329	8-02-79	C	8-79		10 39842	88.48	
0141			31645	GENERAL TOOL & SUPPLY CO	157331	8-02-79	C	8-79		10 39844	133.75	
0141			38035	IN-MAR SALES INC	20027	8-08-79	P	8-79		10 39856	335.15	
0141			74880	TAYLOR ELECTRIC SUPPLY	60567	8-09-79	C	8-79		10 39866	595.20	
0141			31645	GENERAL TOOL & SUPPLY CO	157351	8-03-79	C	8-79		10 39880	418.59	
0141			05640	ARONSON INDUSTRIAL SPLY	A050469	8-06-79	C	8-79		10 39881	184.36	
0141			40228	J F W INDUSTRIES	6412	8-16-79	P	8-79		10 39882	1,109.40	
0141			40228	J F W INDUSTRIES	6393	8-07-79	P	8-79		10 39882	438.66	
0141			38640	INDUSTRIAL TOOL & SUPPLY	60407	8-06-79	C	8-79		10 39894	50.85	
0141			38335	INDUSTRIAL GASKET INC	P46262	8-13-79	C	8-79		10 39896	625.68	
0141			64120	QUIMBY WELDING SUPPLIES	51724	8-07-79	P	8-79		10 39919	122.40	
0141			05640	ARONSON INDUSTRIAL SPLY	A50614	8-08-79	C	8-79		10 39924	44.88	
0141			59800	PALM ABRASIVE & TOOL CO	27859	8-10-79	C	8-79		10 39925	621.02	
0141			59800	PALM ABRASIVE & TOOL CO	27860	8-10-79	P	8-79		10 39925	112.69	
0141			38600	INDUSTRIAL SPECIALTIES	18999	8-07-79	C	8-79		10 39926	15.60	
0141			64120	QUIMBY WELDING SUPPLIES	51740	8-07-79	P	8-79		10 39929	216.28	
0141			64120	QUIMBY WELDING SUPPLIES	51789	8-10-79	P	8-79		10 39929	22.68	
0141			31645	GENERAL TOOL & SUPPLY CO	157399	8-07-79	C	8-79		10 39930	143.52	
0141			68920	SANDERSON SAFETY SUPPLY	73888	8-08-79	C	8-79		10 39931	244.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A050786	8-09-79	P	8-79		10 39932	225.99	
0141			05640	ARONSON INDUSTRIAL SPLY	H050785	8-09-79	P	8-79		10 39932	588.86	
0141			05640	ARONSON INDUSTRIAL SPLY	A051239	8-13-79	P	8-79		10 39932	266.37	
0141			45960	LINDSAY ENTERPRISES INC	10348	8-10-79	C	8-79		10 39937	697.70	
0141			68920	SANDERSON SAFETY SUPPLY	74705	8-08-79	C	8-79		10 39946	27.30	
0141			64120	QUIMBY WELDING SUPPLIES	51833	8-08-79	C	8-79		10 39948	184.80	
0141			31645	GENERAL TOOL & SUPPLY CO	156389	8-08-79	C	8-79		10 39951	612.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A050800	8-09-79	C	8-79		10 39955	525.09	
0141			21070	DAVIS INDUSTRIAL PRODUCT	71264	8-09-79	C	8-79		10 39956	80.82	
0141			45960	LINDSAY ENTERPRISES INC	10349	8-10-79	C	8-79		10 39965	13.53	
0141			50700	MILL & POWER SPECIALTIES	12938	8-09-79	C	8-79		10 39968	158.40	
0141			66205	RICE SAFETY EQUIPMENT	66663	8-14-79	C	8-79		10 39969	210.80	
0141			64120	QUIMBY WELDING SUPPLIES	51896	8-09-79	C	8-79		10 39970	135.96	
0141			31645	GENERAL TOOL & SUPPLY CO	156813	8-09-79	P	8-79		10 39971	484.74	
0141			31645	GENERAL TOOL & SUPPLY CO	156814	8-09-79	C	8-79		10 39971	91.62	
0141			05640	ARONSON INDUSTRIAL SPLY	A050882	8-10-79	C	8-79		10 39972	305.76	
0141			05080	APEX INDUSTRIAL SUPPLY	22037	8-09-79	C	8-79		10 39974	18.80	
0141			50250	METRA STEEL CO	526577	8-08-79	C	8-79		10 39977	90.16	
0141			05640	ARONSON INDUSTRIAL SPLY	A050872	8-10-79	C	8-79		10 39978	203.52	
0141			53520	MURPHY INDUSTRIAL SUPPLY	7079	8-23-79	P	8-79		10 39979	31.67	
0141			68920	SANDERSON SAFETY SUPPLY	74736	8-11-79	C	8-79		10 39980	716.65	
0141			48130	MARINERS SUPPLY CO INC	313	8-09-79	C	8-79		10 39981	249.00	
0141			31645	GENERAL TOOL & SUPPLY CO	156829	8-09-79	C	8-79		10 39983	238.80	
0141			31645	GENERAL TOOL & SUPPLY CO	156828	8-09-79	P	8-79		10 39983	70.10	
0141			38640	INDUSTRIAL TOOL & SUPPLY	60803	8-10-79	C	8-79		10 39984	18.10	
0141			09010	BERENSON HARDWARE CO	355924	8-16-79	C	8-79		10 39993	219.60	

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0141			33269	W W GRAINGER INC #268	624733560	8-08-79	C	8-79	10	41312	104.56	
0141			64120	QUIMBY WELDING SUPPLIES	52165	8-13-79	C	8-79	10	42001	234.00	
0141			18480	CONSOLIDATED ELEC DIST	82224	8-15-79	C	8-79	10	42002	287.10	
0141			05640	ARONSON INDUSTRIAL SPLY	A051053	8-13-79	C	8-79	10	42003	238.75	
0141			68920	SANDERSON SAFETY SUPPLY	74787	8-14-79	C	8-79	10	42004	39.80	
0141			74880	TAYLOR ELECTRIC SUPPLY	62192	8-15-79	C	8-79	10	42005	547.20	
0141			05640	ARONSON INDUSTRIAL SPLY	A051059	8-14-79	P	8-79	10	42008	235.08	
0141			08440	BEARINGS INC	P029053	8-17-79	C	8-79	10	42016	74.70	
0141			31645	GENERAL TOOL & SUPPLY CO	155974	8-13-79	P	8-79	10	42019	600.80	
0141			31645	GENERAL TOOL & SUPPLY CO	155975	8-13-79	P	8-79	10	42019	189.00	
0141			62180	PLATT ELECTRIC SUPPLY	218689	8-13-79	C	8-79	10	42020	57.20	
0141			40228	J F W INDUSTRIES	6446	8-16-79	C	8-79	10	42032	6.75	
0141			05640	ARONSON INDUSTRIAL SPLY	A051231	8-15-79	P	8-79	10	42033	74.49	
0141			48130	MARINERS SUPPLY CO INC	330	8-17-79	C	8-79	10	42036	311.25	
0141			48130	MARINERS SUPPLY CO INC	329	8-15-79	P	8-79	10	42036	186.75	
0141			64120	QUIMBY WELDING SUPPLIES	52293	8-14-79	P	8-79	10	42037	356.40	
0141			64120	QUIMBY WELDING SUPPLIES	52382	8-20-79	P	8-79	10	42037	132.00	
0141			31645	GENERAL TOOL & SUPPLY CO	155991	8-14-79	C	8-79	10	42041	26.53	
0141			31645	GENERAL TOOL & SUPPLY CO	155992	8-14-79	P	8-79	10	42041	223.74	
0141			66205	RICE SAFETY EQUIPMENT	67185	8-20-79	C	8-79	10	42044	378.00	
0141			38640	INDUSTRIAL TOOL & SUPPLY	61006	8-15-79	C	8-79	10	42046	27.93	
0141			40228	J F W INDUSTRIES	6446	8-16-79	C	8-79	10	42062	60.24	
0141			05080	APEX INDUSTRIAL SUPPLY	22201	8-21-79	C	8-79	10	42076	220.00	
0141			64120	QUIMBY WELDING SUPPLIES	52624	8-17-79	P	8-79	10	42079	162.50	
0141			64120	QUIMBY WELDING SUPPLIES	52619	8-20-79	P	8-79	10	42079	1,009.29	
0141			05640	ARONSON INDUSTRIAL SPLY	A051645	8-20-79	P	8-79	10	42087	517.90	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		3.00	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		2.75	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		3.00	
0141			45950	BONNIE LINDNER	PC-8779	8-07-79	C	8-79	60		4.95	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		4.46	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-27-79	C	8-79	60		5.00	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-20-79	C	8-79	60		9.18	
0141			45950	BONNIE LINDNER	PC-PETTYCASH	8-27-79	C	8-79	60		20.19	
ACCOUNT TOTAL *****											27,364.65	
0142			74880	TAYLOR ELECTRIC SUPPLY	61722	8-13-79	A	8-79	10	37174	12.70	
0142			68920	SANDERSON SAFETY SUPPLY	62493	7-10-79	C	8-79	10	37942	80.29	
0142			74880	TAYLOR ELECTRIC SUPPLY	50101	8-15-79	P	8-79	10	37996	27.01	
0142			10971	RAY BRISTOW CO	80372	4-30-79	A	8-79	10	38441	413.32	
0142			60000	PARAMOUNT SUPPLY CO	7765	7-31-79	C	8-79	10	38837	21.24	
0142			02470	AIRWELD	126062	6-29-79	P	8-79	10	38900	446.77	
0142			70803	GEORGE SHORT CO	CM-520	7-24-79	A	8-79	10	38996	2,329.10	
0142			70803	GEORGE SHORT CO	CM-526	7-24-79	A	8-79	10	39028	348.66	
0142			70803	GEORGE SHORT CO	CM-525	7-24-79	A	8-79	10	39028	154.96	
0142			10971	RAY BRISTOW CO	87704	8-08-79	A	8-79	10	39105	33.50	
0142			10971	RAY BRISTOW CO	87705	8-08-79	C	8-79	10	39129	14.39	
0142			10971	RAY BRISTOW CO	88973	7-24-79	P	8-79	10	39129	28.51	
0142			10971	RAY BRISTOW CO	87406	8-14-79	C	8-79	10	39283	148.68	
0142			81835	WALTER WALKER DIST	27805	7-27-79	C	8-79	10	39290	27.52	
0142			02470	AIRWELD	128043	7-31-79	P	8-79	10	39300	797.02	
0142			02470	AIRWELD	128044	7-31-79	C	8-79	10	39300	672.29	



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0142			60176	PARR LUMBER CO	25255E	7-03-79	C	8-79	10	39378	25.20	
0142			60000	PARAMOUNT SUPPLY CO	10505	7-31-79	P	8-79	10	39416	133.60	
0142			70803	GEORGE SHORT CO	34386	7-24-79	C	8-79	10	39422	812.25	
0142			10200	BORIENT WOOD PRODUCTS	8811	7-12-79	C	8-79	10	39426	535.47	
0142			44799	LANE LABORATORIES INC	31822	7-19-79	C	8-79	10	39456	4,262.50	
0142			70803	GEORGE SHORT CO	34514	7-31-79	C	8-79	10	39464	1,067.70	
0142			70803	GEORGE SHORT CO	CM-547	8-13-79	A	8-79	10	39464	51.51-	
0142			74480	SYSTEM 99	3708409	7-27-79	A	8-79	28	39464	51.51	
0142			60000	PARAMOUNT SUPPLY CO	10490	7-23-79	C	8-79	10	39509	800.34	
0142			60000	PARAMOUNT SUPPLY CO	10250	7-20-79	P	8-79	10	39509	1,454.07	
0142			25639	ELLIOTT SALES	27843366	7-30-79	C	8-79	10	39523	1,544.00	
0142			60000	PARAMOUNT SUPPLY CO	10547	7-20-79	P	8-79	10	39569	1,189.35	
0142			27920	FAMILIAN NORTHWEST INC	01275631	7-19-79	C	8-79	10	39576	1,373.40	
0142			10971	RAY BRISTOW CO	88974	7-24-79	C	8-79	10	39577	66.48	
0142			62380	PORTLAND ELECTRIC & PLUM	5414	7-20-79	C	8-79	10	39617	6,580.00	
0142			60000	PARAMOUNT SUPPLY CO	10907	7-30-79	P	8-79	10	39630	1,583.80	
0142			60000	PARAMOUNT SUPPLY CO	10952	8-15-79	A	8-79	10	39638	18.70-	
0142			60000	PARAMOUNT SUPPLY CO	10952	7-25-79	C	8-79	10	39638	480.90	
0142			44799	LANE LABORATORIES INC	31874	7-25-79	C	8-79	10	39645	2,160.00	
0142			44800	LANE-MILES STANDISH CO	31874	7-25-79	A	8-79	10	39645	2,160.00-	
0142			44800	LANE-MILES STANDISH CO	31874	7-25-79	C	8-79	10	39645	2,160.00	
0142			16938	COAST INDUSTRIAL SUPPLY	63992	7-27-79	C	8-79	10	39665	397.67	
0142			60000	PARAMOUNT SUPPLY CO	11067	7-30-79	P	8-79	10	39666	626.81	
0142			60000	PARAMOUNT SUPPLY CO	11264	8-08-79	C	8-79	10	39666	368.24	
0142			10971	RAY BRISTOW CO	87453	7-28-79	C	8-79	10	39678	234.72	
0142			70803	GEORGE SHORT CO	34489	7-27-79	P	8-79	10	39679	344.50	
0142			60000	PARAMOUNT SUPPLY CO	11212	7-30-79	C	8-79	10	39690	207.60	
0142			25639	ELLIOTT SALES	27873374	7-25-79	C	8-79	10	39703	1,552.58	
0142			10971	RAY BRISTOW CO	88175	8-10-79	P	8-79	10	39712	1,534.38	
0142			10971	RAY BRISTOW CO	87561	7-31-79	P	8-79	10	39712	133.60	
0142			10971	RAY BRISTOW CO	88176	8-10-79	P	8-79	10	39712	907.67	
0142			10971	RAY BRISTOW CO	90677	8-08-79	P	8-79	10	39712	29.79	
0142			10971	RAY BRISTOW CO	88174	8-10-79	P	8-79	10	39712	945.78	
0142			87000	ZELLERBACK PAPER CO	9487315	7-31-79	C	8-79	10	39715	214.00	
0142			40228	J F W INDUSTRIES	6383	8-02-79	P	8-79	10	39721	83.10	
0142			40228	J F W INDUSTRIES	6281	8-02-79	C	8-79	10	39721	245.36	
0142			37220	KEN R HUMKE	63170	8-17-79	A	8-79	10	39724	28.32	
0142			37220	KEN R HUMKE	60353	7-27-79	C	8-79	10	39724	28.32	
0142			10971	RAY BRISTOW CO	89394	8-16-79	C	8-79	10	39729	21.30	
0142			10971	RAY BRISTOW CO	90345	7-31-79	P	8-79	10	39729	724.21	
0142			62380	PORTLAND ELECTRIC & PLUM	986159	7-27-79	C	8-79	10	39735	504.34	
0142			37220	KEN R HUMKE	60379	8-01-79	P	8-79	10	39736	274.10	
0142			60000	PARAMOUNT SUPPLY CO	11587	8-08-79	P	8-79	10	39754	755.20	
0142			60000	PARAMOUNT SUPPLY CO	11523	7-31-79	P	8-79	10	39754	849.30	
0142			60000	PARAMOUNT SUPPLY CO	12011	8-15-79	C	8-79	10	39754	169.20	
0142			60000	PARAMOUNT SUPPLY CO	11589	7-31-79	C	8-79	10	39758	342.16	
0142			37220	KEN R HUMKE	61151	8-01-79	C	8-79	10	39774	249.45	
0142			60000	PARAMOUNT SUPPLY CO	11748	8-08-79	P	8-79	10	39775	1,723.85	
0142			60000	PARAMOUNT SUPPLY CO	12012	8-08-79	P	8-79	10	39775	58.14	
0142			60000	PARAMOUNT SUPPLY CO	12246	8-15-79	P	8-79	10	39775	258.33	
0142			66205	RICE SAFETY EQUIPMENT	65954	8-06-79	C	8-79	10	39776	1,131.50	
0142			61980	PIONEER STERILIZED WIPIN	61815	8-06-79	C	8-79	10	39805	250.00	
0142			16938	COAST INDUSTRIAL SUPPLY	64677	8-06-79	C	8-79	10	39806	86.06	

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0142			64120	QUIMBY WELDING SUPPLIES	51302	8-02-79	P	8-79	10	39807	252.00	
0142			64120	QUIMBY WELDING SUPPLIES	51402	8-08-79	C	8-79	10	39807	65.04	
0142			24890	EDWARDS BLDG SUPPLY INC	1015	8-06-79	P	8-79	10	39818	3,356.63	
0142			24890	EDWARDS BLDG SUPPLY INC	1031	8-21-79	P	8-79	10	39818	3,266.14	
0142			16938	COAST INDUSTRIAL SUPPLY	65664	8-17-79	C	8-79	10	39826	423.90	
0142			62380	PORTLAND ELECTRIC & PLUM	P86524	8-02-79	C	8-79	10	39827	156.00	
0142			10971	RAY BRISTOW CO	90709	8-08-79	C	8-79	10	39828	210.30	
0142			60000	PARAMOUNT SUPPLY CO	11973	8-08-79	P	8-79	10	39830	318.17	
0142			60000	PARAMOUNT SUPPLY CO	12166	8-15-79	C	8-79	10	39830	81.93	
0142			25639	ELLIOTT SALES	27963389	8-03-79	C	8-79	10	39860	203.58	
0142			37220	KEN R HUMKE	61642	8-06-79	C	8-79	10	39868	65.50	
0142			60000	PARAMOUNT SUPPLY CO	1629700	8-08-79	P	8-79	10	39871	128.10	
0142			60000	PARAMOUNT SUPPLY CO	12095	8-08-79	C	8-79	10	39871	796.35	
0142			10971	RAY BRISTOW CO	88291	8-17-79	C	8-79	10	39872	191.50	
0142			60000	PARAMOUNT SUPPLY CO	12200	8-08-79	C	8-79	10	39902	124.20	
0142			60600	PEERLESS PAC CO	89300	8-07-79	C	8-79	10	39906	13.32	
0142			65880	RENTEX CORP	2027	8-07-79	C	8-79	10	39923	1,550.40	
0142			66205	RICE SAFETY EQUIPMENT	66664	8-14-79	C	8-79	10	39927	1,131.50	
0142			44799	LANE LABORATORIES INC	32026	8-08-79	C	8-79	10	39933	351.00	
0142			60000	PARAMOUNT SUPPLY CO	12399	8-15-79	C	8-79	10	39950	88.80	
0142			10971	RAY BRISTOW CO	89395	8-16-79	C	8-79	10	39953	26.84	
0142			38035	IN-MAR SALES INC	20085	8-15-79	C	8-79	10	39954	313.13	
0142			37220	KEN R HUMKE	62593	8-10-79	C	8-79	10	39976	160.50	
0142			10971	RAY BRISTOW CO	90878	8-15-79	P	8-79	10	39992	365.04	
0142			10971	RAY BRISTOW CO	91155	8-24-79	P	8-79	10	39992	412.13	
0142			16080	CHOWN HARDWARE & MACHINE	19342	8-16-79	C	8-79	10	39995	22.20	
0142			38035	IN-MAR SALES INC	20140	8-14-79	C	8-79	10	39996	211.20	
0142			60000	PARAMOUNT SUPPLY CO	12713	8-20-79	P	8-79	10	39998	611.66	
0142			74880	TAYLOR ELECTRIC SUPPLY	52193	7-26-79	P	8-79	10	40412	5.18	
0142			60610	PEERLESS PACIFIC CO	67821	6-21-79	C	8-79	10	40590	390.60	
0142			60610	PEERLESS PACIFIC CO	CM-16620	8-22-79	P	8-79	10	40590	186.00-	
0142			05110	APOLLO MARINE SERVICES	CM-807	8-16-79	A	8-79	10	40624	85.50-	
0142			74880	TAYLOR ELECTRIC SUPPLY	53626	7-19-79	C	8-79	10	40717	27.18	
0142			66960	RODDA PAINT CO	18740	7-17-79	C	8-79	10	40867	68.00	
0142			66960	RODDA PAINT CO	18769	7-07-79	C	8-79	10	40879	115.64	
0142			02720	ALASKAN COPPER & BRASS	3815401	8-13-79	C	8-79	10	40928	100.64	
0142			74880	TAYLOR ELECTRIC SUPPLY	55362	8-02-79	P	8-79	10	40941	260.91	
0142			74880	TAYLOR ELECTRIC SUPPLY	55363	7-17-79	P	8-79	10	40941	9.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	57331	8-02-79	C	8-79	10	41143	211.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	56809	7-18-79	P	8-79	10	41143	393.57	
0142			65991	RESEARCH TOOL & DIE WKS	CM-24865	8-17-79	A	8-79	10	41145	445.80-	
0142			18485	CONSOLIDATED FREIGHTWAYS	433686665	7-30-79	A	8-79	28	41145	25.49	
0142			18485	CONSOLIDATED FREIGHTWAYS	433654874	7-19-79	A	8-79	28	41145	22.79	
0142			62580	PORTLAND SCREW CO	4119	7-30-79	P	8-79	10	41213	120.08	
0142			49435	MCGUIRE BEARING CO	P084080	7-20-79	C	8-79	10	41214	38.50	
0142			02720	ALASKAN COPPER & BRASS	4562501	8-23-79	C	8-79	10	41302	43.92	
0142			02720	ALASKAN COPPER & BRASS	4114001	7-30-79	P	8-79	10	41302	179.64	
0142			37220	KEN R HUMKE	60299	8-06-79	C	8-79	10	41349	115.38	
0142			37220	KEN R HUMKE	59973	7-25-79	P	8-79	10	41349	62.13	
0142			38035	IN-MAR SALES INC	19891	7-27-79	C	8-79	10	41371	94.30	
0142			66960	RODDA PAINT CO	20847	7-25-79	C	8-79	10	41374	121.38	
0142			25590	ELECTRO - MECHANICAL CO	7205	7-31-79	C	8-79	10	41382	133.20	
0142			74880	TAYLOR ELECTRIC SUPPLY	62464	8-17-79	P	8-79	10	41396	6.90	

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JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE C	DATA DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0142			74880	TAYLOR ELECTRIC SUPPLY	58710	7-27-79 P	8-79		10	41396	13.24	
0142			74880	TAYLOR ELECTRIC SUPPLY	59480	8-02-79 P	8-79		10	41396	9.30	
0142			74880	TAYLOR ELECTRIC SUPPLY	58709	7-27-79 P	8-79		10	41396	93.37	
0142			39140	INTERNATIONAL SALES CORP	0191	8-21-79 C	8-79		10	41398	867.00	
0142			64120	QUIMBY WELDING SUPPLIES	51268	8-02-79 C	8-79		10	41554	98.84	
0142			38035	IN-MAR SALES INC	19973	8-03-79 C	8-79		10	41563	228.94	
0142			02720	ALASKAN COPPER & BRASS	4360201	8-20-79 C	8-79		10	41567	417.62	
0142			74880	TAYLOR ELECTRIC SUPPLY	63009	8-16-79 P	8-79		10	41587	26.57	
0142			74880	TAYLOR ELECTRIC SUPPLY	59744	8-02-79 P	8-79		10	41587	76.75	
0142			74880	TAYLOR ELECTRIC SUPPLY	59421	8-07-79 P	8-79		10	41587	31.37	
0142			74880	TAYLOR ELECTRIC SUPPLY	59743	8-02-79 P	8-79		10	41587	619.06	
0142			38035	IN-MAR SALES INC	20002	8-08-79 C	8-79		10	41646	150.28	
0142			02720	ALASKAN COPPER & BRASS	4377101	8-14-79 C	8-79		10	41661	301.44	
0142			62250	POPE RIGGING LOFT INC	9778	8-15-79 C	8-79		10	41707	664.00	
0142			38035	IN-MAR SALES INC	20061	8-09-79 C	8-79		10	41709	334.96	
0142			81169	VAN WATERS & ROGERS	020800434	8-07-79 C	8-79		10	41722	1,281.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	61627	8-15-79 P	8-79		10	41741	15.30	
0142			74880	TAYLOR ELECTRIC SUPPLY	60960	8-07-79 P	8-79		10	41741	81.49	
0142			62250	POPE RIGGING LOFT INC	9779	8-09-79 C	8-79		10	41755	378.00	
0142			04470	AMERICAN STEEL	84545	8-10-79 P	8-79		10	41772	37.38	
0142			04470	AMERICAN STEEL	84546	8-16-79 C	8-79		10	41772	65.21	
0142			32360	GERRARD SALES & SERVICE	3208	8-15-79 C	8-79		10	41778	362.95	
0142			74880	TAYLOR ELECTRIC SUPPLY	61718	8-10-79 P	8-79		10	41794	234.99	
0142			74880	TAYLOR ELECTRIC SUPPLY	61719	8-10-79 P	8-79		10	41794	19.02	
0142			74880	TAYLOR ELECTRIC SUPPLY	61709	8-13-79 P	8-79		10	41794	50.04	
0142			74880	TAYLOR ELECTRIC SUPPLY	61708	8-13-79 P	8-79		10	41794	727.18	
0142			74480	SYSTEM 99	2985735	8-17-79 A	8-79		28	41850	21.18	
0142			63794	PROGRESSIVE FASTENERS IN	1596	8-17-79 C	8-79		10	41850	1,149.43	
0142			63794	PROGRESSIVE FASTENERS IN	1589	8-13-79 P	8-79		10	41850	297.61	
0142			05110	APOLLO MARINE SERVICES	785	8-17-79 C	8-79		10	41857	281.18	
0142			74880	TAYLOR ELECTRIC SUPPLY	63004	8-13-79 P	8-79		10	41916	427.96	
0142			47820	MAR-DUSTRIAL SALES INC	01989	8-16-79 C	8-79		10	41920	291.13	
0142			38035	IN-MAR SALES INC	20233	8-21-79 C	8-79		10	41942	200.79	
0142			37220	KEN R HUMKE	63711	8-17-79 C	8-79		10	41961	27.33	
0142			53555	NDT APPARATUS & SUPPLY	3543NW	8-23-79 C	8-79		10	42014	265.00	
0142			10971	RAY BRISTOW CO	90918	8-20-79 P	8-79		10	42022	153.83	
0142			37220	KEN R HUMKE	62893	8-20-79 C	8-79		10	42035	1,016.66	
0142			38035	IN-MAR SALES INC	20209	8-17-79 C	8-79		10	42057	759.36	
0142			37220	KEN R HUMKE	63137	8-16-79 C	8-79		10	42059	858.24	
0142			66205	RICE SAFETY EQUIPMENT	67704	8-24-79 C	8-79		10	42082	1,131.50	
0142			17790	COLUMBIA WELDING PROD	52310	8-20-79 C	8-79		10	42088	5,164.00	
0142			37220	KEN R HUMKE	63318	8-20-79 C	8-79		10	42095	33.00	
0142			16938	COAST INDUSTRIAL SUPPLY	66302	8-24-79 C	8-79		10	42101	541.50	
0142			16938	COAST INDUSTRIAL SUPPLY	66261	8-24-79 C	8-79		10	42114	113.89	
0142			41830	WINTON JONDAHL	0354	8-21-79 C	8-79		10	43028	328.86	
0142			48130	MARINERS SUPPLY CO INC	0379	8-24-79 C	8-79		10	43139	378.00	
0142			70690	AL SHEVELAND	DDF2912	7-27-79 C	8-79		99		536.86	
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-03-79 C	8-79		60		10.40	
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-08-79 C	8-79		60		4.05	
0142			62270	PORT OF PORTLAND	59012A	7-26-79 C	8-79		99		4,041.27	
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-08-79 C	8-79		60		31.76	
0142			70690	AL SHEVELAND	DDF2911	8-22-79 C	8-79		99		65.05	
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-24-79 C	8-79		60		10.80	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBER	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-03-79	C	8-79	60		4.31	
0142			25886	WALLY EMERSON	PC-PETTYCASH	8-03-79	C	8-79	60		4.18	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-31-79	C	8-79	60		15.00	
ACCOUNT TOTAL *****												80,468.84
0144			57331	OREGON STATE OF	DDF6945	8-20-79	C	8-79	99		610.20	
ACCOUNT TOTAL *****												610.20
0146			30700	GENERAL CHAIN BAR	7839	8-10-79	C	8-79	10	38811	351.00	
0146			46720	LUCKY JT DISTRIBUTING CO	536397	8-08-79	C	8-79	10	39506	864.00	
0146			43355	KING BEARING INC	9506702	8-10-79	C	8-79	10	39848	46.37	
0146			63281	POWER TRANSMISSION PROD	31613058	8-22-79	C	8-79	10	42049	111.78	
ACCOUNT TOTAL *****												1,373.15
0148			43355	KING BEARING INC	9506226	7-27-79	C	8-79	10	39470	104.84	
0148			45950	BONNIE LINDNER	PC-73079	7-30-79	C	8-79	60		6.39	
0148			45950	BONNIE LINDNER	PC-73079	7-30-79	C	8-79	60		5.40	
ACCOUNT TOTAL *****												116.63
0167			48445	MARSH & MCLENNAN INC	39418	8-07-79	C	8-79	99		544.00	
ACCOUNT TOTAL *****												544.00
0169			28334	FENTRON CO	DDF02052	8-21-79	C	8-79	99		80,000.00	
0169			44015	DICK KNISPEL	DDF02814	6-01-79	C	8-79	7-17-79	99	300.00	
ACCOUNT TOTAL *****												80,300.00
0174			72630	STANDARD INSURANCE CO	DDF6929	8-15-79	C	8-79	99		596.63	
ACCOUNT TOTAL *****												596.63
0180			47031	M&I INC	3033	8-21-79	P	8-79	10	42082	4,646.79	
0180			18485	CONSOLIDATED FREIGHTWAYS	290246364	8-21-79	P	8-79	28	42082	15.59	
ACCOUNT TOTAL *****												4,662.38
0200			28596	FIRST NAT BANK OF OR	DDF6946	8-20-79	C	8-79	99		200,000.00	
0200			28596	FIRST NAT BANK OF OR	DDF6930	8-16-79	C	8-79	99		600,000.00	
0200			28596	FIRST NAT BANK OF OR	DDF6940	8-17-79	C	8-79	99		400,000.00	
ACCOUNT TOTAL *****												1,200,000.00
0210			37605	HYSTER CO	DAF98672	8-10-79	A	8-79	8-23-79	99	50.45	
0210			33050	GOODYEAR TRUCK&TIRE CNT	85082	8-03-79	A	8-79	8-09-79	99	93.28	
0210			60280	PATENT SCAFFOLDING CO	01774	7-25-79	A	8-79	8-03-79	99	29.35	
0210			57220	OREGON INDUSTRIAL SAFETY	19855	7-24-79	C	8-79	8-09-79	99	3.00	
0210			48445	MARSH & MCLENNAN INC	39708	8-14-79	C	8-79	99		3,535.00	
0210			80055	UNITED AIRLINES 044131	DAF04413	7-31-79	A	8-79	8-24-79	99	693.00	

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AP8650

PORTLAND MACHINERY

## ACCOUNTS PAYABLE

DATE 7-01-80 AT 17:38 PAGE 1

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0106			62501	PORTLAND MACHINERY CO	TR-00FPRT	03-30-80	C 04-80		99		15,000.00	
0106			62501	PORTLAND MACHINERY CO	TR-00FPRT	06-06-80	C 06-80		99		5,128.66	
0106			62501	PORTLAND MACHINERY CO	TR-00FPRT	04-13-80	C 04-80		99		15,000.00	
0106			62501	PORTLAND MACHINERY CO	TR-00FPRT	04-30-80	C 04-80		99		15,370.13	
ACCOUNT TOTAL *****												30,498.79
0120			13020	CIT CORPORATION	00F3192	06-24-80	C 06-80		99		5,678.52	
ACCOUNT TOTAL *****												5,678.52
0126			64980	MIKE ROBBY	00F00298	06-12-80	C 06-80		99		200.00	
0126			64980	MIKE ROBBY	TE-062180A	06-21-80	C 06-80		30		200.00-	
ACCOUNT TOTAL *****												.00
0132			28397	FIRST NATL BANK OR-VISA	116911	03-09-80	C 04-80	07-01-80	30		11.00-	
0132			48090	MARINE SALVAGE CO	RC-8179RNT	08-01-79	C 04-80		99		2,500.00	
ACCOUNT TOTAL *****												2,489.00
0141			83401	PRATT & WHITNEY	CM-RTV618	06-30-80	A 06-80		10	52383	69,460.34-	
0141			51466	MITCHELL BROS TRUCK LINE	108348	06-03-80	A 06-80		28	53647	311.32	
0141			62220	POLANCO	7086	03-27-80	C 06-80		10	53667	7,924.00	
0141			71610	SOUTH BEND LATHE CO	46328	03-28-80	C 06-80		10	53742	459.25	
0141			84039	WESTWARD SHIPPERS ASSN	18973	06-06-80	A 04-80		28	53742	27.93	
0141			51466	MITCHELL BROS TRUCK LINE	109479	06-09-80	A 06-80		23	53839	350.23	
0141			62220	POLANCO	7906	06-09-80	C 06-80		10	53839	6,636.00	
0141			62500	PORTLAND MACHINERY	IC-72660	03-27-80	A 06-80	06-19-80	10	54392	584.00-	
0141			62500	PORTLAND MACHINERY	IC-72660	03-27-80	A 06-80	06-26-80	10	54392	584.00	
0141			62500	PORTLAND MACHINERY	IC-72660	03-27-80	A 06-80	06-19-80	10	54393	584.00	
0141			62500	PORTLAND MACHINERY	IC-72660	03-27-80	A 06-80	06-26-80	10	54393	584.00-	
ACCOUNT TOTAL *****												33,751.5
0142			52650	D C MORRISON CO	42422	06-02-80	C 06-80		10	53734	22.30	
0142			40713	JACOBS MANUFACTURING	8010110103	06-17-80	P 06-80		10	53735	101.90	
0142			82830	WELLS MFG CORP	3646	06-26-80	C 06-80		10	53877	289.61	
0142			52650	D C MORRISON CO	42627	06-23-80	C 06-80		10	53891	209.40	
0142			41430	C & JOHNSTONE MFG	8006	06-18-80	C 06-80		10	53921	194.66	
0142			82403	RICH MAYLAND	PC-PETTYCASH	06-04-80	C 06-80		40		59.80	
ACCOUNT TOTAL *****												877.67 ✓
0150			14276	CARSON OIL COMPANY	10866	06-09-80	C 06-80		10	53838	755.48	
0150			61259	PETROLANE GAS SERVICE	46800	06-11-80	C 06-80		10	53872	143.16	
0150			14276	CARSON OIL COMPANY	11368	04-13-80	C 06-80		10	53893	3,713.17	
ACCOUNT TOTAL *****												4,611.81 X
0157			25350	ELECTRICAL CONSTRUCTION	IC-693228	03-27-80	A 06-80		10	52848	7.70	

NWMAR134367

AP8630

PORTLAND MACHINERY

A C C O U N T S P A Y A B L E

DATE 7-01-80 AT 17:58 PAGE 2

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VEND NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C DATE	ADJUST DATE	EX CD NUMBR	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0157			61259	PETROLANE GAS SERVICE	359377	06-19-80	C 06-80		10	53753	214.23	
0157			71445	SMITH TOOL CO	38277	05-28-80	C 06-80		10	53754	515.65	
0157			71445	SMITH TOOL CO	38276	05-28-80	C 06-80		10	53754	515.65	
0157			31760	GENUINE PARTS CO	092740	06-23-80	C 06-80		10	53755	108.99	
ACCOUNT TOTAL *****											1,342.22 ✓	
0158			67730	RUCKER BROS TRUCKING	063119	06-17-80	C 06-80		10	53034	4,150.00	
ACCOUNT TOTAL *****											4,150.00 ✓	
159			21745	DELTA LINES FREIGHT	9508393	05-22-80	A 06-80		28	53501	24.28	
159			65165	REDDICK HYDRAULIC CYL	CM-0808035	06-18-80	A 06-80		10	53501	1,636.00-	
0159			67760	N L RUCKER PRODUCTS	061717	06-09-80	C 06-80		10	53715	2,200.13	
0159			67760	N L RUCKER PRODUCTS	061718	06-09-80	C 06-80		10	53716	794.25	
0159			67760	N L RUCKER PRODUCTS	060634	06-05-80	C 06-80		10	53717	794.69	
0159			83520	WESTERN FLUID POWER CORP	34434	06-05-80	C 06-80		10	53721	943.54	
0159			52080	J MOODY MACHINE & WELDM	MT88HAFT	05-23-80	C 06-80		10	53795	275.00	
0159			79465	TYRONE HYDRAULICS INC	112737	06-06-80	C 06-80		10	53800	875.70	
0159			67760	N L RUCKER PRODUCTS	062537	06-11-80	C 06-80		10	53807	119.39	
ACCOUNT TOTAL *****											4,490.98 ✓	
0181			63465	PRECISION EQUIPMENT	02842	05-29-80	C 06-80		10	53845	948.00	
ACCOUNT TOTAL *****											948.00	
0186			18485	CONSOLIDATED FREIGHTWAYS	828205685	05-29-80	A 06-80		25	53778	614.37	
0186			19180	COPPUS ENGINEERING CORP	225529	05-30-80	P 06-80		10	53778	7,207.20	
ACCOUNT TOTAL *****											7,821.57	
0210			35650	HEROLD & DANTELETTE CO	0674966	06-13-80	A 06-80	06-19-80 99			161.98	
210			31670	MOBIL OIL	10980	06-11-80	A 06-80	06-17-80 99			16.70	
ACCOUNT TOTAL *****											178.68	
0220			28591	FIRST NATIONAL BANK	930257120	05-31-80	C 06-80		99		4,490.09	
0220			28591	FIRST NATIONAL BANK	930257120	06-15-80	C 06-80		99		6,595.87	
ACCOUNT TOTAL *****											11,085.96	
0221			28591	FIRST NATIONAL BANK	930257120	05-31-80	C 06-80		99		3,458.74	
0221			28591	FIRST NATIONAL BANK	930257120	06-15-80	C 06-80		99		2,906.25	
ACCOUNT TOTAL *****											6,364.99	
0230			57339	OREGON STATE OF	0356028	05-31-80	C 06-80		99		2,622.00	
ACCOUNT TOTAL *****											2,622.00	

NWMAR134368

	Initials	Date
Prepared By		
Approved By		

P116

# CAPITAL ASSETS

JUNE 1980

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		<u>181</u>				<u>186</u>	
		ASSET	DEPR	NET	ASSET	DEPR	NET
1	MAY 31, 1980	6676,995	446,637	1230,358	473,025	368,007	104,018
2							
3	POS 6-1 to						
4	SALES 6-1 to						
5							
6	Month of JUNE						
7	POS	968	28,107	<27,139>	7,622	4,062	3,560
8	SALES						
9							
10	BALANCE	1677,963	474,744	1203,219	479,647	372,069	107,578
11	SALES		DEPR				
12	MONTH						
13	CURRENT						
14	MONTH						
15	PRICE						
16	TOTAL						
17							
18		ASSET	DEPR	NET			
19	MAY 31-80	1676,995	446,637	1230,358			
20	YTD 1 MONTHS						
21							
22	Jobs	968		968			
23	POS						
24	ADJUST						
25	SALES						
26	DEPR		28,107	<28,107>			
27	ADJUST DEPR						
28	SUB-TOTAL	1677,963	474,637	1203,219			
29	IN.P						
30	TOTAL 181						
31							
32	Month of JUNE						
33							
34	Jobs	968					
35	POS						
36	ADJUST						
37	SALES						
38	DEPR		28,107				
39	ADJUST DEPR						
40							
41							
42							
43							

PM Co - INVENTORY

Monthly Comparison

		1	2 931,434	3	4	5	6 1,264,722	7	8 143,395	9	10 1,239,551	11 10,961	12 1,750,512	
		141	142 MAY	143	145	155	141 REMA 157	181	158	159	150 TOTAL	150	TOTAL	
1	MAY 31, 1978	16,876	16,832	30,083	6,953	-0-	9,272	973,127	2,814	30,195	1,229,595	3,153	1,233,045	1
2														2
3	MAY 31, 1979	112,906	24,113	10,959	8,000	-0-	25,807	941,244	3,261	43,373	1,169,663	6,238	1,176,001	3
4														4
5	MAY 31, 1980	270,535	23,003	18,195	-0-	-0-	34,324	1,239,558	99,151	53,214	1,739,551	10,961	1,750,512	5
6														6
7														7
8	JUNE - 1980	216,130	23,949	18,745	-0-	-0-	35,222	1,203,219	16,778	52,963	1,614,009	13,486	1,626,495	8
9	JULY													9
10	AUG													10
11	3 Months Totals													11
12	AV. PER MONTH													12
13														13
14	SEPT													14
15	OCT													15
16	NOV													16
17	6 Months Totals													17
18	AV. PER MONTH													18
19														19
20	DEC													20
21	JAN - 1981													21
22	FEBR													22
23	9 Months Totals													23
24	AV. PER MONTH													24
25														25
26	MARCH													26
27	APRIL													27
28	MAY - 1981													28
29														29
30	Y/B Totals													30
31	AV. PER MONTH													31



# PORTLAND MACHINERY COMPANY

## Inventory Analysis

	140	141	142	143	145	147	148	149	150	151	153	155	157	158	159	Total
Month																
Beginning Invent.	⊖	210,233	23,003	18,197	⊖	⊖	⊖	⊖	10,961	⊖	⊖	⊖	34,364	90,181	53,214	520,154
Purchase	⊖	⊖	978	550	⊖	⊖	⊖	⊖	4,616	⊖	⊖	⊖	1,362	6,150	4,391	17,947
Total	⊖	210,233	23,981	18,748	⊖	⊖	⊖	⊖	15,577	⊖	⊖	⊖	35,726	96,331	57,605	538,101
Ending Inventory	⊖	216,130	20,949	18,748	⊖	⊖	⊖	⊖	12,486	⊖	⊖	⊖	35,222	66,778	52,963	433,276
Cost of Goods Sd.	⊖	74,03	2,932	⊖	⊖	⊖	⊖	⊖	3071	⊖	⊖	⊖	504	29,553	46,42	114,825
Rate of Turnov.	⊖	.34	.14	⊖	⊖	⊖	⊖	⊖	.25	⊖	⊖	⊖	.01	.44	.09	⊖
Anl.Rt. of Tnov.	⊖	4.11	1.68	⊖	⊖	⊖	⊖	⊖	2.97	⊖	⊖	⊖	.17	5.31	1.05	3.1
% Inc. Dec.	⊖	(25.55)	(3.9)	3.0	⊖	⊖	⊖	⊖	13.9	⊖	⊖	⊖	2.5	(25.95)	(4.7)	(18.1)
Year																
Beginning Invent.																
Purchase																
Total																
Ending Inventory																
Cost of Goods Sd.																
Rate of Turnov.																
Anl.Rt. of Tnov.																
% Inc. Dec.																

8912% Green  
4217% White

BT DS SB  
BZ Whse

NW INVENTORY = P/C 140-141-142-146-148 Y/E 5-31-80

PAGE 1 of 2

		1	2	3	4	5	6	7	8	9	10	11	12
		140	5-31-79 179,146	141	INCRSE <DECRSE>	142	5-31-79 225,404	146	5-31-79 28,159	148	5-31-79 146,711		
1	JUNE 1979	P/C 144 <276>											
2		Adjust											
3		Sub								8706			
4		PO	28,708	29,880		67,709		2411		158			
5		STORE	<49,544>	<29,545>		<26,578>		<1678>		<18,538>			
6		TOTAL=	<40,895>	<49,895>	315	315	10,511	10,511	738	738	<15,674>	<15,674>	
7													
8	JULY	P/C 144 <323>											
9		Adjust											
10		Sub						8919		33,359			
11		PO	21,413	41,157		57,224		434		6101			
12		STORE	<28,623>	<35,355>		<114,933>		<2446>		<12,755>			
13		TOTAL=	<7,530>	<48,335>	5772	6057	<57,691>	<46,885>	7645	20,405	41,731		
14													
15	AUG	P/C 144											
16		Adjust											
17		Sub											
18		PO											
19		STORE											
20		TOTAL=											
21													
22	SEPT	P/C 144											
23		Adjust											
24		Sub											
25		PO											
26		STORE											
27		TOTAL=											
28													
29													
30													
31													

NW INVENTORY -

INCREASE - (DECREASE)

		1	2	3	4	5	6	7	8	9	10	11	12
			5-31-79		8-31-79		5-31-79		5-31-79		5-31-79		
		140	179,446	141	-0-	142	225,404	146	28,159	148	146,711		
1	JUNE-1979	<40,505>	138,641	315	315	10,511	236,215	735	28,527	<10,511>	131,237		
2	JULY	<15,530>	123,111	5772	6087	<57,696>	178,519	6907	35,504	23,125	153,442		
3	AUG												
4	SEPT												
5	OCT												
6	NOV												
7	DEC												
8	JAN-1980												
9	FEBR												
10	MARCH												
11	APRIL												
12	MAY												
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WIP160-01  
COMPANY: NORTHWEST MARINE

WIP - SALES AND COST OF SALES

PAGE 1

DATE 06-30-79

JOB #	CUSTOMER NAME	LABOR	PAYROLL TAX	MILEAGE	PURCHASES	STORES	OVERHEAD	TOTAL COST	BILLING	GAIN/LOSS
ACCOUNT 148										
4300	NW 148	574.64	154.64		594.86		711.48	2,035.62		
4309	NW 148	9.20	2.48		210.00		11.39	233.07		
4318	NW 148	4.70	1.27		210.00		5.82	221.79		
4320	NW 148	9.24	2.48		192.00		11.44	215.16		
TOTAL ACCOUNT 148		597.78	160.87		1,206.86		740.13	2,705.64		
ACCOUNT 180										
1212	NW 180				642.97			642.97		
TOTAL ACCOUNT 180					642.97			642.97		
ACCOUNT 910										
1204	NW 910				49.56			49.56		
1205	NW 910				608.00-			608.00-		
TOTAL ACCOUNT 910					558.44-			558.44-		
TOTAL SPECIAL ACCOUNTS		597.78	160.87	.00	1,291.39	.00	740.13	2,790.17	.00	

STRO70

## STORES DISTRIBUTION SUMMARY

M/E 6-30-79

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COMPANY: NORTHWEST MARINE IRON WORKS

JOB #	SUP- FIX	TICKET	S.O. #	DATE	AMOUNT	INVENTORY ACCOUNT
COMPANY TOTAL					199,532.88 **	
					69,843.69 **	140-GENERAL
					29,565.07 **	141-TOOLS
					56,897.93 **	142-MARINE DIVISION
					275.70 **	144-LIQUOR
					1,672.83 **	146-BLUE BAGE
					18,537.73 **	148-PRESCOTT
					19,852.00 **	TOOL ROOM
					2,887.93 **	NO CHARGE
OVERHEAD ITEMS					56,754.72 **	
JOB ITEMS					142,778.16 **	

NWMAR134375

## SELECTED INVOICE DISTRIBUTION

JOB NUMBER	LINE NUMBER	S/O NUMBER	VENDOR NUMBER	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUST DATE	EX CD	P.O. NUMBER	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0132			61780	PINKERTON INC	9938P	5-31-79	C	6-79	10	38491	300.54	
0132			28597	FIRST NATL BANK OR-VISA	130115038	6-15-79	C	6-79	99		13.30	
0132			63825	PRUDENTIAL INSURANCE CO	93765H	6-01-79	C	6-79	99		109.76	
0132			57337	OREGON STATE OF	8877102	6-19-79	C	6-79	99		131.56	
0132			72630	STANDARD INSURANCE CO	30852101	6-01-79	C	6-79	99		685.40	
0132			42470	KALAMAZOO INDUSTRIES	CK8608	4-05-79	A	6-79	6-25-79	99	117.54-	
0132			80330	U S POSTMASTER	887885	7-02-79	C	6-79	99		240.07	
0132			58680	PACIFIC NW BELL	2288222	6-17-79	C	6-79	99		101.36	
0132			23616	DUN & BRADSTREET INC	0327132	6-08-79	C	6-79	70		1,083.40	
0132			82423	WASHINGTON STATE OF	8877103	6-19-79	C	6-79	99		16.28	
0132			61722	ELIAS SCHMIDT WESTERHAHL	4382	6-11-79	C	6-79	70		1,784.74	
ACCOUNT TOTAL *****											4,348.89	
0133			72630	STANDARD INSURANCE CO	30852101	6-01-79	C	6-79	99		1,352.20	
0133			80330	U S POSTMASTER	887885	7-02-79	C	6-79	99		54.07	
0133			39778	HERTZ CORPORATION	143075806	6-27-79	C	6-79	30		193.34	
0133			57335	OREGON STATE OF	8875391	6-05-79	C	6-79	99		20.00	
0133			63825	PRUDENTIAL INSURANCE CO	93765H	6-01-79	C	6-79	99		212.74	
0133			23616	DUN & BRADSTREET INC	0327132	6-08-79	C	6-79	70		541.70	
0133			70478	SHELL OIL CO	836507738	6-15-79	C	6-79	99		9.49	
ACCOUNT TOTAL *****											2,363.50	
0136			44800	LAME-MILES STANDISH CO	822267	6-11-79	C	6-79	10	39003	268.20	
0136			44800	LAME-MILES STANDISH CO	822268	6-13-79	P	6-79	10	39003	287.00	
0136			19890	CITIBANK	9AFCK8456	5-22-79	A	6-79	6-14-79	99	96.00-	
0136			44015	DICK KNISPEL	88702814	6-01-79	C	6-79	6-07-79	99	300.00-	
0136			44665	NEIL F LAMPSON INC	CK10860	6-30-79	A	6-79	7-02-79	99	2,688.00-	
0136			72630	STANDARD INSURANCE CO	30852101	6-01-79	C	6-79	99		357.18	
0136			23616	DUN & BRADSTREET INC	0327132	6-08-79	C	6-79	70		812.55	
0136			57292	ORE PHYSICIANS SERVICE	60261	6-01-79	C	6-79	99		115.00	
0136			63825	PRUDENTIAL INSURANCE CO	93765H	6-01-79	C	6-79	99		93.50	
0136			80330	U S POSTMASTER	887885	7-02-79	C	6-79	99		27.75	
0136			80330	U S POSTMASTER	CK10805	6-14-79	A	6-79	7-02-79	99	28.00-	
ACCOUNT TOTAL *****											1,150.82-	
0140			03762	AMERICAN BUREAU OF SHPS	346088	6-08-79	A	6-79	20	38855	45.15	
0140			03762	AMERICAN BUREAU OF SHPS	346088	6-08-79	A	6-79	20	34654	33.54	
0140			03762	AMERICAN BUREAU OF SHPS	346088	6-08-79	A	6-79	20	38128	50.31	
0140			84231	WILHELM TRUCKING CO	77804	6-25-79	A	6-79	28	38128	222.81	
0140			57354	OREGON STEEL MILLS	77804	6-25-79	A	6-79	10	38128	6,701.88	
0140			57354	OREGON STEEL MILLS	64435	6-21-79	A	6-79	10	38128	1,257.04	
0140			72260	STACK STEEL & SUPPLY CO	P01623	5-25-79	C	6-79	10	38746	1,988.25	
0140			58630	PACIFIC MACHINERY & TOOL	78558	5-23-79	C	6-79	10	38809	19.77	
0140			58670	PACIFIC METAL CO	13255	5-24-79	C	6-79	10	38825	211.10	
0140			37220	KEN R HUMKE	51815	5-29-79	C	6-79	10	38835	76.60	
0140			23710	DUO-FAST OREGON CO	94497	6-04-79	P	6-79	10	38838	118.20	
0140			02430	AIRCO WELDING SUPPLY	11817	5-25-79	C	6-79	10	38846	33.50	
0140			24890	EDWARDS BLOC SUPPLY INC	9225	5-25-79	C	6-79	10	38891	2,352.74	
0140			02430	AIRCO WELDING SUPPLY	11848	5-29-79	C	6-79	10	38865	49.29	
0140			28140	FARWEST STEEL CORP	31829	5-31-79	C	6-79	10	38866	802.06	



## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0140			16938	COAST INDUSTRIAL SUPPLY	60032	6-06-79	C	6-79		10 38883	427.25	
0140			25639	ELLIOTT SALES	26783117	6-16-79	C	6-79		10 38901	192.94	
0140			02470	AIRWELD	217016	5-31-79	C	6-79		10 38902	18.80	
0140			72259	STACK STEEL & SUPPLY CO	P01912	6-19-79	P	6-79		10 38920	3,575.63	
0140			72260	STACK STEEL & SUPPLY CO	0AFPP01912	6-19-79	A	6-79 6-26-79		10 38920	3,575.63-	
0140			72260	STACK STEEL & SUPPLY CO	P01912	6-19-79	P	6-79		10 38920	3,575.63	
0140			72260	STACK STEEL & SUPPLY CO	P01911	6-14-79	P	6-79		10 38920	3,238.68	
0140			72259	STACK STEEL & SUPPLY CO	P01911	6-14-79	P	6-79		10 38920	3,238.68	
0140			72260	STACK STEEL & SUPPLY CO	0AFPP01911	6-14-79	A	6-79 6-26-79		10 38920	3,238.68-	
0140			32480	GILMORE STEEL	7171268	6-01-79	P	6-79		10 38921	356.93	
0140			58630	PACIFIC MACHINERY & TOOL	79176	5-31-79	C	6-79		10 38922	29.00	
0140			02430	AIRCO WELDING SUPPLY	P526148	6-04-79	C	6-79		10 38932	50.00	
0140			02430	AIRCO WELDING SUPPLY	P526240	6-06-79	P	6-79		10 38931	77.50	
0140			02430	AIRCO WELDING SUPPLY	P526189	6-03-79	C	6-79		10 38931	984.10	
0140			10971	RAY BRISTOW CO	83951	6-13-79	A	6-79		10 38959	33.49	
0140			10971	RAY BRISTOW CO	83952	6-25-79	A	6-79		10 38959	28.03-	
0140			10971	RAY BRISTOW CO	83323	6-16-79	C	6-79		10 38959	130.98	
0140			32480	GILMORE STEEL	7171619	6-04-79	C	6-79		10 38961	514.46	
0140			37220	KEN & HUMKE	32355	6-04-79	C	6-79		10 38965	289.37	
0140			02430	AIRCO WELDING SUPPLY	P526253	6-07-79	C	6-79		10 39030	486.00	
0140			02720	ALASKAN COPPER & BRASS	3340601	6-21-79	C	6-79		10 39035	145.92	
0140			28140	FARWEST STEEL CORP	33776	6-12-79	C	6-79		10 39037	637.60	
0140			77648	TIMESAVEN PRODUCTS CO	8339	6-14-79	C	6-79		10 39063	28.21	
0140			21070	DAVIS INDUSTRIAL PRODUCT	62982	6-14-79	C	6-79		10 39090	19.50	
0140			10971	RAY BRISTOW CO	83681	6-25-79	P	6-79		10 39091	161.50	
0140			10971	RAY BRISTOW CO	83678	6-25-79	P	6-79		10 39091	173.30	
0140			10971	RAY BRISTOW CO	83680	6-25-79	P	6-79		10 39091	222.38	
0140			43359	KING BEARING INC	9540449	6-13-79	C	6-79		10 39092	28.70	
0140			44120	QUINBY WELDING SUPPLIES	47390	6-12-79	C	6-79		10 39093	56.50	
0140			27238	EUTECTIC CORP	1919666	6-18-79	C	6-79		10 39099	211.75	
0140			66960	RODDA PAINT CO	16236	6-14-79	C	6-79		10 39099	9.60	
0140			44792	LANE LABORATORIES INC	31527	6-19-79	C	6-79		10 39108	47.50	
0140			14938	COAST INDUSTRIAL SUPPLY	61122	6-20-79	C	6-79		10 39154	155.34	
0140			28140	FARWEST STEEL CORP	37076	6-23-79	C	6-79		10 39181	704.31	
0140			83530	WESTERN FOUNDRY CO	3683	6-19-79	C	6-79		10 39184	65.55	
0140			73330	STEEL PRODUCTS CO	823	6-20-79	C	6-79		10 39189	121.38	
0140			25639	ELLIOTT SALES	27053177	6-22-79	C	6-79		10 39190	402.00	
0140			72760	STANDARD STEEL WAREHOUSE	29373	6-21-79	C	6-79		10 39217	105.83	
0140			58630	PACIFIC MACHINERY & TOOL	81118	6-21-79	C	6-79		10 39224	100.38	
0140			73330	STEEL PRODUCTS CO	965	6-26-79	C	6-79		10 39234	884.11	
0140			21040	A W DAVIS SUPPLY CO	94580	6-29-79	C	6-79		10 39336	87.50	

ACCOUNT TOTAL \*\*\*\*\*

28,708.20

0141			33788	NATIONAL CHEMSEARCH	718983	5-29-79	P	6-79	10	31855	463.40	
0141			66203	RICE SAFETY EQUIPMENT	60998	4-09-79	A	6-79	25	34965	1.41	
0141			45960	LINDSAY ENTERPRISES INC	6783	6-26-79	C	6-79	10	38023	541.97	
0141			59800	PALM ABRASIVE & TOOL CO	23751	6-18-79	P	6-79	10	38275	15.72	
0141			59800	PALM ABRASIVE & TOOL CO	19542	6-25-79	C	6-79	10	38275	193.20	
0141			05640	ARONSON INDUSTRIAL SPLY	A045012	5-29-79	C	6-79	10	38316	46.80	
0141			38640	INDUSTRIAL TOOL & SUPPLY	49973	5-30-79	C	6-79	10	38346	73.54	
0141			64120	QUINBY WELDING SUPPLIES	45335	5-22-79	C	6-79	10	38463	186.49	
0141			68920	SANDERSON SAFETY SUPPLY	63738	6-01-79	C	6-79	10	38484	585.60	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBER	LINE NUMBER	S/O NUMBER	VENDOR NUMBER	VENDOR NAME	IN INVOICE TR. NUMBER	INVOICE P DATE	DATA C DATE	ADJUST DATE	EX CD	P.O. NUMBER	INVOICE DISTRIBUTION	ACCT-JOB-#/S TOTALS
0141			44370	LA GRAND INDUSTRIAL SUPP	9552	6-21-79	C 6-79		10	38316	755.00	
0141			38660	INDUSTRIAL TOOL & SUPPLY	31001	5-31-79	C 6-79		10	38532	58.05	
0141			01310	AHLE EQUIPMENT CO	6239	6-06-79	C 6-79		10	38583	83.95	
0141			64120	QUIMBY WELDING SUPPLIES	46177	6-12-79	C 6-79		10	38601	16.40	
0141			01328	ABRASIVE SPECIALTIES INC	2189	6-21-79	A 6-79		10	38648	43.05	
0141			38640	INDUSTRIAL TOOL & SUPPLY	31575	5-30-79	P 6-79		10	38740	549.03	
0141			38640	INDUSTRIAL TOOL & SUPPLY	32622	6-05-79	P 6-79		10	38740	27.34	
0141			38640	INDUSTRIAL TOOL & SUPPLY	32674	6-13-79	C 6-79		10	38740	30.57	
0141			45960	LINDSAY ENTERPRISES INC	7995	6-20-79	C 6-79		10	38762	402.00	
0141			37960	IMPERIAL OIL & GREASE CO	328484	5-25-79	C 6-79		10	38797	131.72	
0141			68920	SANDERSON SAFETY SUPPLY	66246	6-20-79	P 6-79		10	38798	38.00	
0141			68920	SANDERSON SAFETY SUPPLY	65732	6-04-79	P 6-79		10	38798	110.60	
0141			64120	QUIMBY WELDING SUPPLIES	45781	5-24-79	C 6-79		10	38807	1,792.50	
0141			08440	BEARINGS INC	P022202	5-31-79	P 6-79		10	38812	18.00	
0141			08440	BEARINGS INC	P022207	5-31-79	P 6-79		10	38812	6.37	
0141			08440	BEARINGS INC	P022203	5-31-79	P 6-79		10	38812	18.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A063838	6-07-79	C 6-79		10	38847	156.00	
0141			63680	PRIESTLEY OIL & CHEMICAL	14248	5-30-79	C 6-79		10	38869	255.20	
0141			31645	GENERAL TOOL & SUPPLY CO	143823	5-29-79	C 6-79		10	38878	5.60	
0141			45960	LINDSAY ENTERPRISES INC	8277	6-15-79	C 6-79		10	38879	441.70	
0141			31645	GENERAL TOOL & SUPPLY CO	145844	5-30-79	P 6-79		10	38908	281.36	
0141			38640	INDUSTRIAL TOOL & SUPPLY	32100	5-31-79	C 6-79		10	38911	12.96	
0141			21070	DAVIS INDUSTRIAL PRODUCT	60928	5-31-79	C 6-79		10	38913	36.00	
0141			64120	QUIMBY WELDING SUPPLIES	46275	6-04-79	C 6-79		10	38916	7.20	
0141			64120	QUIMBY WELDING SUPPLIES	46569	6-04-79	P 6-79		10	38916	24.75	
0141			68920	SANDERSON SAFETY SUPPLY	43024	6-04-79	C 6-79		10	38917	2,608.32	
0141			68920	SANDERSON SAFETY SUPPLY	263913	5-31-79	P 6-79		10	38917	150.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A045197	5-31-79	P 6-79		10	38918	357.79	
0141			05640	ARONSON INDUSTRIAL SPLY	A045198	5-31-79	P 6-79		10	38918	198.00	
0141			05080	APRX INDUSTRIAL SUPPLY	20113	5-31-79	C 6-79		10	38919	144.00	
0141			44799	LANE LABORATORIES INC	31347	6-04-79	C 6-79		10	38924	23.25	
0141			31645	GENERAL TOOL & SUPPLY CO	145856	6-01-79	P 6-79		10	38927	38.98	
0141			31645	GENERAL TOOL & SUPPLY CO	145698	5-31-79	C 6-79		10	38927	2.60	
0141			31645	GENERAL TOOL & SUPPLY CO	145697	6-07-79	P 6-79		10	38927	15.30	
0141			31645	GENERAL TOOL & SUPPLY CO	145857	6-01-79	P 6-79		10	38927	20.60	
0141			31645	GENERAL TOOL & SUPPLY CO	145883	5-31-79	P 6-79		10	38944	66.00	
0141			31645	GENERAL TOOL & SUPPLY CO	146310	6-15-79	C 6-79		10	38944	36.45	
0141			21070	DAVIS INDUSTRIAL PRODUCT	61202	6-11-79	P 6-79		10	38946	162.31	
0141			21070	DAVIS INDUSTRIAL PRODUCT	61203	6-11-79	P 6-79		10	38946	29.25	
0141			38640	INDUSTRIAL TOOL & SUPPLY	32337	6-05-79	C 6-79		10	38962	193.77	
0141			39570	IRWIN-HOBSON COMPANY	3240	6-07-79	C 6-79		10	38971	83.32	
0141			50700	HILL & POWER SPECIALTIES	12171	6-04-79	C 6-79		10	38972	66.00	
0141			31645	GENERAL TOOL & SUPPLY CO	146321	6-08-79	C 6-79		10	38976	47.20	
0141			31645	GENERAL TOOL & SUPPLY CO	146384	6-13-79	C 6-79		10	38977	108.00	
0141			31645	GENERAL TOOL & SUPPLY CO	146522	6-04-79	P 6-79		10	38977	36.00	
0141			74880	TAYLOR ELECTRIC SUPPLY	48683	6-04-79	C 6-79		10	38978	987.40	
0141			05640	ARONSON INDUSTRIAL SPLY	A045720	6-06-79	P 6-79		10	38983	43.44	
0141			05640	ARONSON INDUSTRIAL SPLY	A045717	6-06-79	P 6-79		10	38983	397.41	
0141			05640	ARONSON INDUSTRIAL SPLY	A047227	6-25-79	P 6-79		10	38983	144.00	
0141			64120	QUIMBY WELDING SUPPLIES	46697	6-05-79	P 6-79		10	38989	372.90	
0141			64120	QUIMBY WELDING SUPPLIES	46756	6-08-79	C 6-79		10	38989	218.90	
0141			68920	SANDERSON SAFETY SUPPLY	67408	6-08-79	P 6-79		10	38990	273.60	
0141			68920	SANDERSON SAFETY SUPPLY	65988	6-06-79	P 6-79		10	38990	640.80	



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0141			37220	KEN R HUMKE	33211	6-06-79	C	6-79		10	38991	73.92	
0141			44570	LA GRAND INDUSTRIAL SUPP	8849	6-08-79	C	6-79		10	38992	191.28	
0141			44570	LA GRAND INDUSTRIAL SUPP	8848	6-08-79	C	6-79		10	38993	86.40	
0141			31645	GENERAL TOOL & SUPPLY CO	146566	6-05-79	C	6-79		10	38997	153.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A04571A	6-07-79	C	6-79		10	38999	130.08	
0141			21070	DAVIS INDUSTRIAL PRODUCT	61873	6-07-79	P	6-79		10	39000	285.40	
0141			64120	QUIMBY WELDING SUPPLIES	46829	6-06-79	P	6-79		10	39007	312.00	
0141			64120	QUIMBY WELDING SUPPLIES	47098	6-14-79	P	6-79		10	39007	38.00	
0141			31645	GENERAL TOOL & SUPPLY CO	147026	6-07-79	C	6-79		10	39017	41.65	
0141			38640	INDUSTRIAL TOOL & SUPPLY	36317	6-12-79	C	6-79		10	39033	1,265.78	
0141			45960	LINDSAY ENTERPRISES INC	8631	6-29-79	C	6-79		10	39046	848.03	
0141			38600	INDUSTRIAL SPECIALTIES	17601	6-11-79	C	6-79		10	39050	168.18	
0141			31645	GENERAL TOOL & SUPPLY CO	142634	6-25-79	P	6-79		10	39051	23.50	
0141			31645	GENERAL TOOL & SUPPLY CO	131106	6-13-79	P	6-79		10	39051	128.70	
0141			31660	GENERAL RUBBER & SUPPLY	31083	6-14-79	C	6-79		10	39053	662.00	
0141			31645	GENERAL TOOL & SUPPLY CO	131112	6-08-79	C	6-79		10	39054	394.92	
0141			31645	GENERAL TOOL & SUPPLY CO	131108	6-08-79	C	6-79		10	39057	89.91	
0141			21070	DAVIS INDUSTRIAL PRODUCT	62617	6-12-79	C	6-79		10	39061	236.45	
0141			05080	APEX INDUSTRIAL SUPPLY	20350	6-15-79	C	6-79		10	39062	195.00	
0141			31645	GENERAL TOOL & SUPPLY CO	131148	6-21-79	C	6-79		10	39078	611.48	
0141			64120	QUIMBY WELDING SUPPLIES	47311	6-12-79	C	6-79		10	39079	39.60	
0141			05640	ARONSON INDUSTRIAL SPLY	A046231	6-13-79	C	6-79		10	39081	452.73	
0141			13281	CALSON CORPORATION	369368	6-15-79	C	6-79		10	39086	311.41	
0141			27920	FAMILIAN NORTHWEST INC	01342834	6-15-79	C	6-79		10	39087	248.64	
0141			50250	METRA STEEL CO	322690	6-15-79	C	6-79		10	39096	316.98	
0141			45960	LINDSAY ENTERPRISES INC	8857	6-27-79	C	6-79		10	39130	318.80	
0141			68920	SANDERSON SAFETY SUPPLY	67156	6-14-79	C	6-79		10	39131	164.40	
0141			21070	DAVIS INDUSTRIAL PRODUCT	63319	6-15-79	C	6-79		10	39132	242.50	
0141			31645	GENERAL TOOL & SUPPLY CO	131398	6-25-79	P	6-79		10	39133	2.19	
0141			31645	GENERAL TOOL & SUPPLY CO	131909	6-14-79	P	6-79		10	39133	26.60	
0141			31645	GENERAL TOOL & SUPPLY CO	131908	6-14-79	P	6-79		10	39133	16.58	
0141			31645	GENERAL TOOL & SUPPLY CO	131907	6-18-79	P	6-79		10	39134	632.76	
0141			31645	GENERAL TOOL & SUPPLY CO	131399	6-22-79	C	6-79		10	39134	15.42	
0141			48130	MARINERS SUPPLY CO INC	45	6-14-79	C	6-79		10	39135	483.60	
0141			47820	MAR-INDUSTRIAL SALES INC	863	6-14-79	C	6-79		10	39136	158.88	
0141			01328	ABRASIVE SPECIALTIES INC	2182	6-15-79	C	6-79		10	39137	217.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A046593	6-18-79	C	6-79		10	39139	182.34	
0141			64120	QUIMBY WELDING SUPPLIES	47623	6-16-79	C	6-79		10	39141	52.50	
0141			59800	PALM ABRASIVE & TOOL CO	24023	6-26-79	P	6-79		10	39142	180.90	
0141			59800	PALM ABRASIVE & TOOL CO	23617	6-20-79	P	6-79		10	39142	213.45	
0141			21070	DAVIS INDUSTRIAL PRODUCT	63742	6-18-79	C	6-79		10	39182	46.14	
0141			31645	GENERAL TOOL & SUPPLY CO	131953	6-18-79	C	6-79		10	39183	30.30	
0141			81800	WALKER ELECTRIC WORKS	10760	6-20-79	C	6-79		10	39194	134.00	
0141			31645	GENERAL TOOL & SUPPLY CO	131982	6-19-79	P	6-79		10	39195	199.12	
0141			45960	LINDSAY ENTERPRISES INC	8977	6-22-79	C	6-79		10	39196	180.25	
0141			90130	SAN A MESHER TOOL CO	11430	6-27-79	C	6-79		10	39199	66.00	
0141			64120	QUIMBY WELDING SUPPLIES	48029	6-19-79	C	6-79		10	39200	78.55	
0141			31760	GENUINE PARTS CO	46316394	6-21-79	C	6-79		10	39219	34.20	
0141			31645	GENERAL TOOL & SUPPLY CO	150241	6-22-79	P	6-79		10	39221	67.90	
0141			31645	GENERAL TOOL & SUPPLY CO	150242	6-25-79	P	6-79		10	39221	92.48	
0141			45960	LINDSAY ENTERPRISES INC	9092	6-26-79	C	6-79		10	39222	257.85	
0141			31645	GENERAL TOOL & SUPPLY CO	150243	6-21-79	C	6-79		10	39223	391.89	
0141			38600	INDUSTRIAL SPECIALTIES	17925	6-21-79	C	6-79		10	39225	249.60	

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0141			28880	FLYNN'S OFFICE SUPPLIES	10010	6-21-79	C	6-79		10 39228	39.00	
0141			44120	QUINBY WELDING SUPPLIES	48166	6-21-79	P	6-79		10 39229	109.20	
0141			17161	COLLINS OIL COMPANY	9839	6-26-79	C	6-79		10 39237	124.32	
0141			50250	METRA STEEL CO	323776	6-25-79	C	6-79		10 39240	77.20	
0141			01328	ABRASIVE SPECIALTIES INC	2202	6-25-79	P	6-79		10 39243	217.00	
0141			31643	GENERAL TOOL & SUPPLY CO	150277	6-22-79	C	6-79		10 39245	106.00	
0141			38640	INDUSTRIAL TOOL & SUPPLY	37332	6-25-79	C	6-79		10 39247	48.30	
0141			03640	ARONSON INDUSTRIAL SPLY	A047196	6-23-79	C	6-79		10 39251	139.20	
0141			31643	GENERAL TOOL & SUPPLY CO	150284	6-22-79	C	6-79		10 39252	14.47	
0141			31643	GENERAL TOOL & SUPPLY CO	148708	6-25-79	C	6-79		10 39259	374.73	
0141			03640	ARONSON INDUSTRIAL SPLY	A047274	6-26-79	C	6-79		10 39260	71.16	
0141			03080	APEX INDUSTRIAL SUPPLY	20817	6-29-79	P	6-79		10 39261	35.40	
0141			03080	APEX INDUSTRIAL SUPPLY	20801	6-29-79	C	6-79		10 39261	687.00	
0141			31560	GENERAL RUBBER & SUPPLY	31684	6-28-79	C	6-79		10 39262	96.00	
0141			40228	J F W INDUSTRIES	6066	6-26-79	C	6-79		10 39264	25.20	
0141			63680	PRIESTLEY OIL & CHEMICAL	13438	6-26-79	C	6-79		10 39271	124.30	
0141			48130	MARINERS SUPPLY CO INC	122	6-29-79	C	6-79		10 39372	324.00	
0141			31643	GENERAL TOOL & SUPPLY CO	140730	3-30-79	C	6-79		10 40235	142.30	
0141			25886	WALLY EMERSON	PC-PETTYCASH	6-15-79	C	6-79		60	6.25	
0141			25886	WALLY EMERSON	PC-PETTYCASH	6-22-79	C	6-79		60	1.84	
ACCOUNT TOTAL *****											29,879.54	
0142			48790	MASON'S SUPPLY CO	46787	12-27-78	C	6-79		10 32705	79.00	
0142			23612	ELECTRONIC SPECIALTIES	0A9PY4704	4-30-79	A	6-79	6-25-79	10 37449	187.26	
0142			23430	ELECTRICAL SPECIALTY CO	PT4706	4-30-79	A	6-79		10 37449	187.26	
0142			74880	TAYLOR ELECTRIC SUPPLY	42376	6-04-79	C	6-79		10 37651	45.20	
0142			74880	TAYLOR ELECTRIC SUPPLY	42704	6-22-79	C	6-79		10 37748	57.20	
0142			74880	TAYLOR ELECTRIC SUPPLY	49081	6-07-79	A	6-79		10 37797	19.44	
0142			74880	TAYLOR ELECTRIC SUPPLY	46203	6-11-79	P	6-79		10 37936	67.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	47828	6-05-79	P	6-79		10 37996	285.58	
0142			60000	PARAMOUNT SUPPLY CO	2690	6-05-79	C	6-79		10 38032	1,308.81	
0142			50250	METRA STEEL CO	316506	6-13-79	C	6-79		10 38228	183.00	
0142			55020	HOB HILL PHARMACY	VASELINE	5-05-79	C	6-79		10 38477	40.32	
0142			10971	RAY BRISTOW CO	83950	6-15-79	C	6-79		10 38553	66.02	
0142			44799	LANE LABORATORIES INC	31334	6-01-79	C	6-79		10 38671	924.00	
0142			70803	GEORGE SHORT CO	33558	5-31-79	C	6-79		10 38709	613.35	
0142			10971	RAY BRISTOW CO	82912	6-11-79	C	6-79		10 38792	79.78	
0142			29959	G I JOES INC	33567	5-22-79	C	6-79		10 38793	47.52	
0142			60000	PARAMOUNT SUPPLY CO	4646	5-31-79	P	6-79		10 38837	626.39	
0142			60000	PARAMOUNT SUPPLY CO	7254	6-08-79	P	6-79		10 38837	94.71	
0142			60000	PARAMOUNT SUPPLY CO	7101	6-04-79	P	6-79		10 38837	39.57	
0142			79519	UPA INTERNATIONAL	20132	5-30-79	C	6-79		10 38848	248.24	
0142			10971	RAY BRISTOW CO	83849	5-31-79	P	6-79		10 38871	17.89	
0142			16938	COAST INDUSTRIAL SUPPLY	59751	5-30-79	C	6-79		10 38872	1,359.34	
0142			60000	PARAMOUNT SUPPLY CO	6844	6-06-79	C	6-79		10 38873	1,491.80	
0142			37220	KEN R HUMKE	51845	5-30-79	C	6-79		10 38875	204.75	
0142			25639	ELLIOTT SALES	26483102	6-05-79	C	6-79		10 38886	495.16	
0142			81835	WALTER WALKER DIST	26440	4-27-79	P	6-79		10 38890	38.44	
0142			81835	WALTER WALKER DIST	27101	6-06-79	P	6-79		10 38890	47.76	
0142			62380	PORTLAND ELECTRIC & PLUM	94947	5-30-79	P	6-79		10 38905	2,380.60	
0142			62380	PORTLAND ELECTRIC & PLUM	94971	5-30-79	C	6-79		10 38905	327.12	
0142			87000	ZELLERBACK PAPER CO	9268830	6-12-79	P	6-79		10 38906	1,251.30	

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0142			87000	ZELLERBACK PAPER CO	9299181	6-14-79	C	8-79	10	38906	337.60	
0142			31645	GENERAL TOOL & SUPPLY CO	143843	5-30-79	C	8-79	10	38907	114.40	
0142			21070	SAVIS INDUSTRIAL PRODUCT	40938	6-08-79	C	8-79	10	38912	243.36	
0142			60000	PARAMOUNT SUPPLY CO	7070	6-04-79	C	8-79	10	38915	98.00	
0142			82310	JOHN WARREN	8148	6-01-79	C	8-79	10	38931	460.00	
0142			08010	E J BARTLELLS CO	552163	6-05-79	C	8-79	10	38935	174.60	
0142			08010	E J BARTLELLS CO	552117	6-04-79	P	8-79	10	38935	58.20	
0142			37220	KEN & HUMKE	52302	6-01-79	C	8-79	10	38936	851.88	
0142			50250	METRA STEEL CO	521759	6-04-79	C	8-79	10	38937	330.22	
0142			31645	GENERAL TOOL & SUPPLY CO	742416	6-01-79	C	8-79	10	38938	52.80	
0142			44120	QUIMBY WELDING SUPPLIES	46375	5-31-79	C	8-79	10	38939	299.00	
0142			61980	PIONEER STERILIZED WIPIN	61097	6-04-79	C	8-79	10	38947	1,100.00	
0142			02430	AIRCO WELDING SUPPLY	P526253	6-05-79	P	8-79	10	38952	167.30	
0142			02430	AIRCO WELDING SUPPLY	P526190	6-07-79	P	8-79	10	38952	853.00	
0142			02430	AIRCO WELDING SUPPLY	P526222	6-05-79	P	8-79	10	38952	138.90	
0142			02430	AIRCO WELDING SUPPLY	P526300	6-08-79	P	8-79	10	38952	365.60	
0142			16938	COAST INDUSTRIAL SUPPLY	48018	6-06-79	C	8-79	10	38953	689.04	
0142			62380	PORTLAND ELECTRIC & PLUM	P82435	6-01-79	C	8-79	10	38954	1,130.61	
0142			32953	GOODRICH FOREST PRODUCTS	2399	6-12-79	P	8-79	10	38968	8,233.14	
0142			38035	IN-MAR SALES INC	19080	6-05-79	C	8-79	10	38975	315.00	
0142			08010	E J BARTLELLS CO	552232	6-05-79	C	8-79	10	38979	67.20	
0142			60000	PARAMOUNT SUPPLY CO	7346	6-05-79	C	8-79	10	38981	24.90	
0142			61980	PIONEER STERILIZER WIPIN	61123	6-07-79	C	8-79	10	38982	250.00	
0142			47680	MANNING PACKING & SUPPLY	8657	6-07-79	C	8-79	10	38987	56.70	
0142			10971	RAY BRISTOW CO	85952	6-13-79	C	8-79	10	38988	485.00	
0142			70803	GEORGE SHORT CO	33866	6-14-79	C	8-79	10	38996	4,163.00	
0142			67360	ROSE CITY AWNING CO	19421	6-13-79	P	8-79	10	39008	722.25	
0142			67360	ROSE CITY AWNING CO	19417	6-13-79	C	8-79	10	39008	722.25	
0142			37220	KEN & HUMKE	33260	6-20-79	C	8-79	10	39009	57.50	
0142			60000	PARAMOUNT SUPPLY CO	7536	6-06-79	C	8-79	10	39010	62.40	
0142			50250	METRA STEEL CO	522628	6-11-79	C	8-79	10	39011	450.00	
0142			70803	GEORGE SHORT CO	33815	6-12-79	P	8-79	10	39013	1,607.41	
0142			70803	GEORGE SHORT CO	33816	6-11-79	P	8-79	10	39013	114.06	
0142			74480	SYSTEM 99	3698828	6-12-79	P	8-79	28	39013	47.76	
0142			37220	KEN & HUMKE	33275	6-20-79	C	8-79	10	39025	91.43	
0142			60000	PARAMOUNT SUPPLY CO	7968	6-25-79	P	8-79	10	39027	1,402.66	
0142			60000	PARAMOUNT SUPPLY CO	7638	6-14-79	P	8-79	10	39027	534.78	
0142			70803	GEORGE SHORT CO	33936	6-20-79	C	8-79	10	39028	621.27	
0142			70803	GEORGE SHORT CO	33937	6-20-79	P	8-79	10	39028	276.12	
0142			87000	ZELLERBACK PAPER CO	9285768	6-12-79	C	8-79	10	39040	323.50	
0142			60000	PARAMOUNT SUPPLY CO	7780	6-20-79	C	8-79	10	39045	3,171.27	
0142			44799	LANE LABORATORIES INC	31489	6-15-79	C	8-79	10	39069	672.00	
0142			44120	QUIMBY WELDING SUPPLIES	47325	6-14-79	C	8-79	10	39088	2,202.50	
0142			57550	OREGON-WASH TRANSPORT	13811	6-13-79	A	8-79	28	39103	100.49	
0142			23831	BUWAMISH SHIPYARD	064110056	6-26-79	C	8-79	10	39103	2,000.00	
0142			50250	METRA STEEL CO	523716	6-18-79	C	8-79	10	39120	125.10	
0142			33040	GOODYEAR RUBBER & SUPPLY	3093	6-18-79	C	8-79	10	39121	57.60	
0142			62380	PORTLAND ELECTRIC & PLUM	P83301	6-14-79	C	8-79	10	39122	1,209.24	
0142			48790	MASONS SUPPLY CO	56613	6-15-79	C	8-79	10	39126	46.80	
0142			45140	GEO LAWRENCE CO	549133	6-04-79	C	8-79	10	39127	281.40	
0142			44120	QUIMBY WELDING SUPPLIES	47611	6-14-79	P	8-79	10	39128	54.60	
0142			10971	RAY BRISTOW CO	85677	6-25-79	P	8-79	10	39129	42.40	
0142			10971	RAY BRISTOW CO	85679	6-25-79	P	8-79	10	39129	202.80	

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0142			10971	RAY BRISTOW CO	45742	6-27-79	P	6-79	10	39129	294.30	
0142			35020	MOR HILL PHARMACY	L109359	6-15-79	P	6-79	10	39149	226.08	
0142			37220	KEN R HUMKE	34913	6-18-79	C	6-79	10	39151	162.41	
0142			38035	IN-MAR SALES INC	19442	6-27-79	P	6-79	10	39152	1,305.63	
0142			64120	QUIMBY WELDING SUPPLIES	47753	6-20-79	C	6-79	10	39164	2,408.00	
0142			60000	PARAMOUNT SUPPLY CO	8307	6-25-79	P	6-79	10	39165	682.03	
0142			40228	J F W INDUSTRIES	4030	6-26-79	C	6-79	10	39171	421.00	
0142			40228	J F W INDUSTRIES	4029	6-26-79	P	6-79	10	39171	396.01	
0142			62380	PORTLAND ELECTRIC & PLUM	P83469	6-18-79	C	6-79	10	39175	624.83	
0142			48790	MASON'S SUPPLY CO	56936	6-20-79	C	6-79	10	39197	88.80	
0142			66208	RICE SAFETY EQUIPMENT	42362	6-26-79	C	6-79	10	39214	1,131.30	
0142			47820	MAR-INDUSTRIAL SALES INC	1120	6-26-79	C	6-79	10	39232	470.80	
0142			38035	IN-MAR SALES INC	18893	5-23-79	C	6-79	10	40186	436.38	
0142			74880	TAYLOR ELECTRIC SUPPLY	47481	6-20-79	P	6-79	10	40293	157.50	
0142			74880	TAYLOR ELECTRIC SUPPLY	47130	5-30-79	P	6-79	10	40293	142.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	49796	6-16-79	P	6-79	10	40293	63.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	47940	5-31-79	P	6-79	10	40293	31.50	
0142			74880	TAYLOR ELECTRIC SUPPLY	47482	6-11-79	P	6-79	10	40293	237.60	
0142			84430	M C WINES HARDWARE	0090	5-30-79	C	6-79	10	40297	257.22	
0142			74480	SYSTEM 99	3198176	6-04-79	A	6-79	28	40346	44.80	
0142			05000	ANIXTER-SAN FRANCISCO	121040227	6-01-79	C	6-79	10	40346	1,521.04	
0142			74880	TAYLOR ELECTRIC SUPPLY	47143	6-04-79	P	6-79	10	40348	235.67	
0142			47820	MAR-INDUSTRIAL SALES INC	00486	6-05-79	C	6-79	10	40401	291.06	
0142			34890	HARDWARE SPECIALTY CO	4605	6-06-79	P	6-79	10	40410	116.62	
0142			34890	HARDWARE SPECIALTY CO	4681	6-07-79	C	6-79	10	40410	78.01	
0142			74880	TAYLOR ELECTRIC SUPPLY	48498	6-07-79	P	6-79	10	40412	170.18	
0142			47820	MAR-INDUSTRIAL SALES INC	P00789	6-08-79	C	6-79	10	40467	235.78	
0142			14990	CENTRAL SOLVENTS & CHEM	48193	6-13-79	C	6-79	10	40470	118.40	
0142			14990	CENTRAL SOLVENTS & CHEM	48137	6-08-79	P	6-79	10	40470	1,242.98	
0142			66960	RODDA PAINT CO	14191	6-08-79	C	6-79	10	40471	91.20	
0142			38035	IN-MAR SALES INC	19124	6-13-79	C	6-79	10	40486	786.26	
0142			83821	WESTERN STUD WELDING	002931	6-12-79	C	6-79	10	40511	162.13	
0142			38035	IN-MAR SALES INC	19228	6-13-79	C	6-79	10	40514	110.79	
0142			74480	SYSTEM 99	296A166	6-14-79	P	6-79	28	40544	15.01	
0142			34890	HARDWARE SPECIALTY CO	5277	6-18-79	C	6-79	10	40544	382.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	50802	6-18-79	P	6-79	10	40545	301.04	
0142			74880	TAYLOR ELECTRIC SUPPLY	51088	6-15-79	C	6-79	10	40552	63.75	
0142			45910	LINCOLN ELECTRIC CO	E032844T	6-26-79	C	6-79	10	40591	197.10	
0142			66960	RODDA PAINT CO	14373	6-18-79	C	6-79	10	40606	291.60	
0142			04470	AMERICAN STEEL	76463	6-22-79	C	6-79	10	40616	174.86	
0142			74880	TAYLOR ELECTRIC SUPPLY	51697	6-22-79	C	6-79	10	40690	37.85	
0142			74880	TAYLOR ELECTRIC SUPPLY	52377	6-25-79	C	6-79	10	40697	107.06	
0142			74880	TAYLOR ELECTRIC SUPPLY	51699	6-22-79	P	6-79	10	40697	177.19	
0142			70690	AL SHEVELAND	08F500	6-20-79	C	6-79	99		90.04	
0142			25886	WALLY EMERSON	PC-PETTYCASH	6-29-79	C	6-79	60		13.01	
0142			25886	WALLY EMERSON	PC-PETTYCASH	6-18-79	C	6-79	60		14.25	

ACCOUNT TOTAL \*\*\*\*\* 67,709.04

0144 57331 OREGON STATE OF 08F7139 6-29-79 C 6-79 99 607.20

ACCOUNT TOTAL \*\*\*\*\* 607.20

## SELECTED INVOICE DISTRIBUTION

JOB NUMBER	LINE NUMBER	S/O NUMBER	VENDR NUMBER	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUT DATE	EX CD	P.O. NUMBER	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0146			46720	LUCKY JT DISTRIBUTING CO	45086	3-30-79	C	6-79		10 34958	143.00	
0146			30700	GENERAL CHAIN BAR	7566	3-25-79	C	6-79		10 38584	877.50	
0146			44550	W. LA HARRE MACHINE WORK	4573	6-25-79	C	6-79		10 38642	191.20	
0146			13100	E N B CO	10636	3-31-79	C	6-79		10 38686	660.00	
0146			30700	GENERAL CHAIN BAR	7633	6-13-79	P	6-79		10 38811	526.50	
0146			43355	KING BEARING INC	93A0465	6-18-79	C	6-79	6-27-79	10 39097	12.88	
ACCOUNT TOTAL *****												2,411.08
0148			43355	KING BEARING INC	93A0465	6-18-79	C	6-79	6-27-79	10 39097	12.88	
0148			43355	KING BEARING INC	93A0465	6-18-79	C	6-79		10 39097	12.88	
0148			08440	BEARINGS INC	9024111	6-19-79	C	6-79		10 39110	101.30	
0148			43355	KING BEARING INC	9305406	6-21-79	C	6-79		10 39188	33.60	
0148			43355	KING BEARING INC	9305420	6-21-79	P	6-79		10 39204	22.74	
ACCOUNT TOTAL *****												197.66
0167			48445	HARSH & McLENNAN INC	37570	3-31-79	C	6-79		99	3,791.00	
ACCOUNT TOTAL *****												3,791.00
0169			25350	ELECTRICAL CONSTRUCTION	8AF67907	6-14-79	C	6-79	6-14-79	10 36712	40.74	
0169			25612	ELECTRONIC SPECIALTIES	8AF67A04	6-30-79	A	6-79	6-25-79	99	187.24	
ACCOUNT TOTAL *****												228.00
0180			06288	ATLAS IRON WORKS	3381	6-08-79	C	6-79		10 37271	123.75	
0180			63790	PROGRESS ELECTRONICS CO	38245	6-18-79	P	6-79		18 37356	24,033.00	
ACCOUNT TOTAL *****												24,156.75
0183			39089	INTL BUSINESS MACHINE	8054597	3-31-79	C	6-79		10 34486	900.00	
0183			40717	JAFCO	00F788	6-29-79	C	6-79		99	79.77	
ACCOUNT TOTAL *****												979.77
0210			13918	CARBOLINE	8AF0020902	3-18-79	A	6-79	6-12-79	99	1,058.20	
0210			47680	HANNING PACKING & SUPPLY	0AF3843	6-15-79	A	6-79	6-21-79	99	81.60	
0210			84140	WHEELS INC	063951	6-01-79	C	6-79		99	224.51	
0210			47680	HANNING PACKING & SUPPLY	0AF03844	6-15-79	A	6-79	6-21-79	99	81.60	
0210			84140	WHEELS INC	074001	7-01-79	C	6-79		99	196.79	
0210			35560	HENSCHEL CORP	4940	6-21-79	C	6-79		99	279.61	
0210			84140	WHEELS INC	074000	7-01-79	C	6-79		99	1,833.57	
0210			72260	STACK STEEL & SUPPLY CO	0AF001911	6-14-79	A	6-79	6-26-79	99	3,238.68	
0210			30650	GENERAL BEARING	0AF1778299	4-01-79	A	6-79	6-21-79	99	112.26	
0210			26280	ENVIRONMENTAL HEALTH SEN	0AF1015	6-08-79	A	6-79	6-21-79	99	135.00	
0210			51678	MOBIL OIL CO	0AF7523351	6-11-79	A	6-79	6-21-79	99	37.17	
0210			64680	R T RAIVIO	8316	6-19-79	A	6-79	7-05-79	99	31.75	
0210			47680	HANNING PACKING & SUPPLY	0AF03843	6-15-79	A	6-79	6-21-79	99	81.60	
0210			83906	WESTINGHOUSE ENGINE SERV	0AF6758478	6-14-79	A	6-79	6-26-79	99	4,034.00	
0210			84140	WHEELS INC	074003	7-01-79	C	6-79		99	196.16	
0210			84140	WHEELS INC	074002	7-01-79	C	6-79		99	482.58	
0210			72260	STACK STEEL & SUPPLY CO	0AF001912	6-19-79	A	6-79	6-26-79	99	3,575.63	

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COMPANY: NORTHWEST MARINE

WIP - SALES AND COST OF SALES

PAGE 1

DATE 07-31-79

JOB #	CUSTOMER NAME	LABOR	PAYROLL TAX	MILEAGE	PURCHASES	STORES	OVERHEAD	TOTAL COST	BILLING	GAIN/LOSS
ACCOUNT 146										
3661	NW 146	94.20	24.91			4,392.77	109.01	4,620.89		
3666	NW 146	410.55	111.13		2,174.25	19.16	505.63	3,220.72		
3680	NW 146	17.89	4.81		570.00		22.15	614.85		
3685	NW 146	44.64	12.13		319.00	33.60	53.25	462.62		
TOTAL ACCOUNT 146		567.28	152.98		3,063.25	4,445.53	690.04	8,919.08		
ACCOUNT 148										
4283	NW 148	13.69	3.88		165.00		19.69	202.26		
4287	NW 148	35.74	9.81		298.00	1.50	46.99	392.04		
4289	NW 148	140.05	38.11		750.70		165.73	1,094.59		
4292	NW 148	53.67	14.44		946.50	58.44	66.45	1,139.50		
4299	NW 148	22.39	6.08		773.80	1.50	26.70	830.47		
4301	NW 148	27.34	7.41		355.00	4.27	32.81	426.83		
4304	NW 148	4.50	1.22		137.50	6.40	5.32	154.94		
4305	NW 148	9.04	2.45		211.40	1.50	10.93	235.32		
4306	NW 148	36.10	9.76		3,132.00	594.88	43.69	3,816.43		
4307	NW 148	35.60	9.69		3,780.00	759.90	42.07	4,627.26		
4308	NW 148	136.45	36.89		1,083.67	40.00	165.92	1,462.93		
4311	NW 148	45.50	12.32		6,690.00	1,420.48	54.79	8,223.09		
4312	NW 148	89.43	24.19		738.30	20.00	108.71	980.63		
4314	NW 148	35.60	9.67		2,210.00	366.87	42.57	2,664.71		
4315	NW 148	47.20	12.76		152.84	10.00	57.43	280.23		
4316	NW 148	58.37	15.84		387.20	10.00	69.74	541.15		
4319	NW 148	17.95	4.88		384.00		21.21	428.04		
4325	NW 148	89.93	24.42		838.00	20.00	107.30	1,079.65		
4329	NW 148	77.90	21.21			1,913.08	92.04	2,104.23		
4332	NW 148	316.64	86.19			59.60	374.12	836.55		
4333	NW 148	9.40	2.56			24.96	11.11	48.03		
4339	NW 148	4.45	1.21				5.26	10.92		
4340	NW 148	33.65	9.16				39.75	82.56		
4342	NW 148	53.69	14.62		29.97	7.00	63.44	168.72		
4346	NW 148	27.39	7.46			160.40	32.36	227.61		
TOTAL ACCOUNT 148		1,421.67	386.23		23,063.88	5,480.78	1,706.13	32,058.69		
ACCOUNT 180										
1250	NW A/C 180		29.00			12.78	233.41-	191.63-		
6662	NW 180				266.98	29.56		296.54		
TOTAL ACCOUNT 180			29.00		266.98	42.34	233.41-	104.91		
TOTAL SPECIAL ACCOUNTS		1,988.95	568.21	.00	26,394.11	9,968.65	2,162.76	41,082.68	.00	



STRO70

## STORES DISTRIBUTION SUMMARY

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COMPANY: NORTHWEST MARINE IRON WORKS

JOB #	SUF- FIX	TICKET	S.O. #	DATE	AMOUNT	INVENTORY ACCOUNT
COMPANY TOTAL						227,113.76 **
						28,622.51 ** 140-GENERAL
						35,384.63 ** 141-TOOLS
						114,919.53 ** 142-MARINE DIVISION
						323.00 ** 144-LIQUOR
						2,446.18 ** 146-BLUE BABE
						12,755.26 ** 148-PRESCOTT
						40,569.99 ** TOOL ROOM
						11,111.61 ** ZERO ITEM
						3,204.27 ** NO CHARGE
OVERHEAD ITEMS						86,829.48 **
JOB ITEMS						140,284.28 **

NWMAR134385

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0136			48445	MARSH & MCLENNAN INC	38509	7-03-79	C	7-79	99		3,672.72	
0136			57292	ORE PHYSICIANS SERVICE	JULY	7-01-79	C	7-79	99		115.00	
0136			72630	STANDARD INSURANCE CO	30852101	7-01-79	C	7-79	99		303.22	
0136			70478	SHELL OIL CO	656507738	7-23-79	C	7-79	99		16.50	
0136			63825	PRUDENTIAL INSURANCE CO	93765H	7-01-79	C	7-79	99		78.29	
ACCOUNT TOTAL *****											79,919.94	
0140			27920	FAMILIAN NORTHWEST INC	934262	6-20-79	A	7-79	10	38090	13.75-	
0140			57354	OREGON STEEL MILLS	37395	6-30-79	P	7-79	20	38128	209.57	
0140			33538	GREEN TRANSFER & STORAGE	36138	7-02-79	P	7-79	28	38128	100.50	
0140			57354	OREGON STEEL MILLS	37394	6-30-79	C	7-79	20	38128	1,375.37	
0140			78430	TRADE X	970233825	6-12-79	A	7-79	28	38136	799.52	
0140			80478	US STEEL CORP	29314091	6-13-79	P	7-79	20	38136	4,575.51	
0140			80478	U2 STEEL CORP	29314092	6-13-79	C	7-79	20	38136	3,330.38	
0140			28140	FARWEST STEEL CORP	28966	5-17-79	C	7-79	10	38683	841.97	
0140			58630	PACIFIC MACHINERY & TOOL	82259	7-03-79	C	7-79	10	38700	2,627.56	
0140			32480	GILMORE STEEL	7171320A	7-02-79	P	7-79	10	38921	1,061.03	
0140			32480	GILMORE STEEL	7171320	7-02-79	C	7-79	10	38921	2,113.86	
0140			10971	RAY BRISTOW CO	88792	7-19-79	C	7-79	10	39091	85.85	
0140			87070	ZEP MFG CO	63007109	6-20-79	C	7-79	10	39094	37.50	
0140			60000	PARAMOUNT SUPPLY CO	8157	6-20-79	C	7-79	10	39100	170.25	
0140			78848	TRANSPORT CLEARINGS NW	7918603866	7-05-79	A	7-79	28	39190	12.70	
0140			32480	GILMORE STEEL	7175107	6-28-79	C	7-79	10	39312	193.61	
0140			32480	GILMORE STEEL	7175108	6-28-79	C	7-79	10	39312	363.01	
0140			02720	ALASKAN COPPER & BRASS	4018401	7-26-79	C	7-79	10	39338	209.09	
0140			10971	RAY BRISTOW CO	87072	7-11-79	C	7-79	10	39349	142.18	
0140			26360	BOFF ELECTRICAL CO	P60391	6-29-79	C	7-79	10	39364	21.12	
0140			66960	RODDA PAINT CO	17379	7-02-79	C	7-79	10	39365	160.80	
0140			63680	PRIESTLEY OIL & CHEMICAL	13600	7-02-79	C	7-79	10	39366	169.95	
0140			16938	COAST INDUSTRIAL SUPPLY	63766	7-23-79	C	7-79	10	39385	169.08	
0140			16938	COAST INDUSTRIAL SUPPLY	62876	7-13-79	P	7-79	10	39385	274.76	
0140			58630	PACIFIC MACHINERY & TOOL	82258	7-03-79	C	7-79	10	39386	24.24	
0140			10971	RAY BRISTOW CO	87107	7-12-79	C	7-79	10	39388	25.55	
0140			87070	ZEP MFG CO	63007910	7-11-79	C	7-79	10	39389	32.86	
0140			83530	WESTERN FOUNDRY CO	3936	7-05-79	P	7-79	10	39400	315.70	
0140			83530	WESTERN FOUNDRY CO	3970	7-06-79	C	7-79	10	39400	29.80	
0140			02470	AIRWELD	218904	7-03-79	C	7-79	10	39401	191.40	
0140			58630	PACIFIC MACHINERY & TOOL	92764	7-10-79	P	7-79	10	39463	7.30	
0140			58630	PACIFIC MACHINERY & TOOL	92765	7-10-79	P	7-79	10	39463	236.43	
0140			58630	PACIFIC MACHINERY & TOOL	83060	7-12-79	C	7-79	10	39463	8.87	
0140			44570	LA GRAND INDUSTRIAL SUPP	10500	7-10-79	C	7-79	10	39479	53.54	
0140			02720	ALASKAN COPPER & BRASS	3956901	7-26-79	C	7-79	10	39512	216.75	
0140			04470	AMERICAN STEEL	80454	7-18-79	C	7-79	10	39530	526.34	
0140			10971	RAY BRISTOW CO	87312	7-23-79	C	7-79	10	39543	41.72	
0140			37220	KEN R HUMKE	59025	7-17-79	C	7-79	10	39544	13.38	
0140			87000	ZELLERBACK PAPER CO	9436924	7-19-79	C	7-79	10	39550	404.20	
0140			58630	PACIFIC MACHINERY & TOOL	85944	7-23-79	C	7-79	10	39625	98.99	
0140			25639	ELLIOTT SALES	27653355	7-24-79	C	7-79	10	39626	373.45	
0140			58630	PACIFIC MACHINERY & TOOL	84092	7-24-79	C	7-79	10	39636	15.69	
0140			31645	GENERAL TOOL & SUPPLY CO	154498	7-23-79	C	7-79	10	39647	36.00	
0140			16938	COAST INDUSTRIAL SUPPLY	63769	7-25-79	C	7-79	10	39653	23.38	
0140			44799	LANE LABORATORIES INC	31875	7-25-79	C	7-79	10	39658	103.50	



## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0140			64120	QUIMBY WELDING SUPPLIES	30487	7-24-79	C	7-79		10	39660	38.70	
0140			16938	COAST INDUSTRIAL SUPPLY	63987	7-27-79	C	7-79		10	39695	63.50	
0140			73330	STEEL PRODUCTS CO	1844	7-27-79	C	7-79		10	39713	124.70	
0140			72260	STACK STEEL & SUPPLY CO	CM-W44028HAXE	6-20-79	C	7-79		99		652.00-	
0140			45950	BOHNE LINDNER	PC-7979	7-09-79	C	7-79		60		5.40	

ACCOUNT TOTAL \*\*\*\*\* 21,412.81

0141			64120	QUIMBY WELDING SUPPLIES	45112	7-24-79	A	7-79		10	38001	94.30	
0141			64120	QUIMBY WELDING SUPPLIES	45526	5-21-79	C	7-79		10	38736	392.16	
0141			78848	TRANSPORT CLEARINGS NW	7918004815	6-29-79	A	7-79		28	38797	12.92	
0141			31645	GENERAL TOOL & SUPPLY CO	145669	6-27-79	C	7-79		10	38908	72.00	
0141			05640	ARONSON INDUSTRIAL SPLY	A048172	7-09-79	P	7-79		10	38918	15.60	
0141			05640	ARONSON INDUSTRIAL SPLY	A048428	7-11-79	P	7-79		10	38918	53.58	
0141			21070	DAVIS INDUSTRIAL PRODUCT	64138	6-22-79	C	7-79		10	38946	6.50	
0141			30342	GARDEN STATE OFFICE SUPP	2034	6-07-79	C	7-79		10	38986	135.36	
0141			68920	SANDERSON SAFETY SUPPLY	68375	6-20-79	P	7-79		10	38990	331.20	
0141			21070	DAVIS INDUSTRIAL PRODUCT	62035	7-10-79	C	7-79		10	39000	173.60	
0141			64120	QUIMBY WELDING SUPPLIES	47631	7-05-79	C	7-79		10	39007	49.50	
0141			66960	RODDA PAINT CO	13580	6-26-79	C	7-79		10	39143	47.40	
0141			27238	EUTECTIC CORP	1919852	6-29-79	C	7-79		10	39162	315.00	
0141			64120	QUIMBY WELDING SUPPLIES	R50164	7-20-79	P	7-79		13	39216	15.75	
0141			21070	DAVIS INDUSTRIAL PRODUCT	64302	6-22-79	C	7-79		20	39226	80.19	
0141			21070	DAVIS INDUSTRIAL PRODUCT	64301	6-22-79	C	7-79		10	39227	18.55	
0141			64120	QUIMBY WELDING SUPPLIES	48188	6-26-79	P	7-79		10	39229	3.91	
0141			64120	QUIMBY WELDING SUPPLIES	48464	6-28-79	P	7-79		10	39229	7.76	
0141			68920	SANDERSON SAFETY SUPPLY	68363	6-21-79	C	7-79		10	39231	300.00	
0141			77890	TODD-ZENNER PAPER CO	863210	7-17-79	A	7-79		10	39238	116.79	
0141			77890	TODD-ZENNER PAPER CO	85864	6-28-79	C	7-79		10	39238	48.09	
0141			64120	QUIMBY WELDING SUPPLIES	49280	7-09-79	A	7-79		10	39240	158.40	
0141			64120	QUIMBY WELDING SUPPLIES	48722	7-06-79	P	7-79		10	39240	814.80	
0141			64120	QUIMBY WELDING SUPPLIES	48320	6-28-79	A	7-79		10	39240	388.80	
0141			64120	QUIMBY WELDING SUPPLIES	48256	6-25-79	A	7-79		10	39240	158.40	
0141			50250	METRA STEEL CO	523776	6-25-79	A	7-79	7-06-79	10	39240	77.20-	
0141			50250	METRA STEEL CO	523776	6-25-79	C	7-79	7-06-79	10	39241	77.20	
0141			01328	ABRASIVE SPECIALTIES INC	2220	7-18-79	C	7-79		10	39243	217.00	
0141			66960	RODDA PAINT CO	17138	6-23-79	C	7-79		10	39246	35.00	
0141			02430	AIRCO WELDING SUPPLY	477	6-27-79	C	7-79		10	39272	47.25	
0141			66205	RICE SAFETY EQUIPMENT	62936	6-30-79	C	7-79		10	39281	196.80	
0141			68920	SANDERSON SAFETY SUPPLY	70696	7-12-79	P	7-79		10	39292	300.00	
0141			31645	GENERAL TOOL & SUPPLY CO	148582	7-03-79	P	7-79		10	39311	28.35	
0141			31645	GENERAL TOOL & SUPPLY CO	148750	7-02-79	P	7-79		10	39311	268.55	
0141			72960	STAR MACHINERY	33983	6-29-79	P	7-79		10	39314	7.44	
0141			72960	STAR MACHINERY	DAF33983	6-29-79	A	7-79	7-10-79	10	39314	7.44-	
0141			72961	STAR MACHINERY	33983	6-29-79	P	7-79		10	39314	7.44	
0141			31645	GENERAL TOOL & SUPPLY CO	148570	6-29-79	P	7-79		10	39318	104.49	
0141			31645	GENERAL TOOL & SUPPLY CO	148762	6-27-79	P	7-79		10	39318	38.04	
0141			31645	GENERAL TOOL & SUPPLY CO	148761	7-02-79	P	7-79		10	39318	346.20	
0141			31645	GENERAL TOOL & SUPPLY CO	148571	7-20-79	C	7-79		10	39318	48.00	
0141			68920	SANDERSON SAFETY SUPPLY	69340	6-28-79	C	7-79		10	39319	25.50	
0141			29908	FULLER BRUSH COMPANY	1819876	6-30-79	C	7-79		10	39322	63.68	
0141			50250	METRA STEEL CO	524910	6-28-79	C	7-79		10	39323	153.72	
0141			37220	KEN R HUMKE	56814	7-03-79	C	7-79		10	39326	33.36	

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0141			21070	DAVIS INDUSTRIAL PRODUCT	65309	6-28-79	C	7-79	10	39328	9.63	
0141			50250	METRA STEEL CO	524696	6-29-79	C	7-79	10	39359	149.54	
0141			31645	GENERAL TOOL & SUPPLY CO	149003	6-29-79	C	7-79	10	39360	68.14	
0141			45960	LINDRAY ENTERPRISES INC	9296	7-05-79	C	7-79	10	39361	149.15	
0141			64120	QUIMBY WELDING SUPPLIES	48779	6-29-79	P	7-79	10	39371	130.50	
0141			64120	QUIMBY WELDING SUPPLIES	48845	7-12-79	C	7-79	10	39371	37.82	
0141			31645	GENERAL TOOL & SUPPLY CO	149026	6-29-79	P	7-79	10	39377	703.88	
0141			31645	GENERAL TOOL & SUPPLY CO	149025	6-29-79	P	7-79	10	39377	344.44	
0141			31645	GENERAL TOOL & SUPPLY CO	150698	7-09-79	P	7-79	10	39377	189.68	
0141			05640	ARONSON INDUSTRIAL SPLY	A047778	7-02-79	P	7-79	10	39381	1,281.18	
0141			05640	ARONSON INDUSTRIAL SPLY	A047777	7-02-79	P	7-79	10	39381	476.39	
0141			31645	GENERAL TOOL & SUPPLY CO	149037	7-03-79	C	7-79	10	39383	60.42	
0141			31645	GENERAL TOOL & SUPPLY CO	149054	7-02-79	C	7-79	10	39392	1,178.96	
0141			62250	POPE RIGGING LOFT INC	9596	7-24-79	C	7-79	10	39396	57.97	
0141			68920	SANDERSON SAFETY SUPPLY	69589	7-06-79	C	7-79	10	39402	716.65	
0141			62380	PORTLAND ELECTRIC & PLUM	1733	7-02-79	C	7-79	10	39403	166.72	
0141			05640	ARONSON INDUSTRIAL SPLY	A047882	7-03-79	P	7-79	10	39406	343.92	
0141			05640	ARONSON INDUSTRIAL SPLY	A049275	7-23-79	C	7-79	10	39406	10.56	
0141			05640	ARONSON INDUSTRIAL SPLY	A048079	7-06-79	P	7-79	10	39430	185.72	
0141			31645	GENERAL TOOL & SUPPLY CO	149603	7-11-79	C	7-79	10	39431	52.92	
0141			31645	GENERAL TOOL & SUPPLY CO	149085	7-05-79	P	7-79	10	39431	400.58	
0141			44570	LA GRAND INDUSTRIAL SUPP	10323	7-06-79	C	7-79	10	39432	156.60	
0141			68920	SANDERSON SAFETY SUPPLY	70053	7-06-79	C	7-79	10	39433	270.00	
0141			64120	QUIMBY WELDING SUPPLIES	49149	7-06-79	C	7-79	10	39439	791.00	
0141			74880	TAYLOR ELECTRIC SUPPLY	54552	7-10-79	C	7-79	10	39447	399.90	
0141			64120	QUIMBY WELDING SUPPLIES	49304	7-06-79	P	7-79	10	39448	800.00	
0141			64120	QUIMBY WELDING SUPPLIES	49339	7-12-79	C	7-79	10	39448	8,000.00	
0141			02470	AIRWELD	219111	7-10-79	C	7-79	10	39455	25.20	
0141			50130	SAM A MESHER TOOL CO	11650	7-10-79	C	7-79	10	39467	31.90	
0141			31645	GENERAL TOOL & SUPPLY CO	151380	7-11-79	P	7-79	10	39472	22.20	
0141			31645	GENERAL TOOL & SUPPLY CO	149660	7-10-79	P	7-79	10	39472	47.04	
0141			62180	PLATT ELECTRIC SUPPLY	215377	7-13-79	C	7-79	10	39474	37.20	
0141			05080	APEX INDUSTRIAL SUPPLY	21182	7-11-79	C	7-79	10	39475	657.50	
0141			64120	QUIMBY WELDING SUPPLIES	49522	7-11-79	C	7-79	10	39476	42.50	
0141			09010	BERENSON HARDWARE CO	352793	7-12-79	C	7-79	10	39480	288.70	
0141			31645	GENERAL TOOL & SUPPLY CO	149676	7-09-79	P	7-79	10	39483	86.65	
0141			31645	GENERAL TOOL & SUPPLY CO	149675	7-09-79	P	7-79	10	39483	44.19	
0141			31645	GENERAL TOOL & SUPPLY CO	136214	7-20-79	P	7-79	10	39483	2.62	
0141			64120	QUIMBY WELDING SUPPLIES	49645	7-12-79	C	7-79	10	39489	27.50	
0141			64120	QUIMBY WELDING SUPPLIES	49631	7-11-79	P	7-79	10	39489	76.60	
0141			48130	MARINERS SUPPLY CO INC	179	7-11-79	C	7-79	10	39490	288.00	
0141			31560	GENERAL RUBBER & SUPPLY	52286	7-16-79	C	7-79	10	39491	364.50	
0141			68920	SANDERSON SAFETY SUPPLY	69890	7-10-79	C	7-79	10	39492	300.00	
0141			50250	METRA STEEL CO	525517	7-12-79	C	7-79	10	39493	79.20	
0141			05640	ARONSON INDUSTRIAL SPLY	A048502	7-12-79	C	7-79	10	39495	61.53	
0141			31645	GENERAL TOOL & SUPPLY CO	153337	7-11-79	C	7-79	10	39498	136.08	
0141			38640	INDUSTRIAL TOOL & SUPPLY	58758	7-12-79	C	7-79	10	39499	63.00	
0141			01580	ACME INTERNATIONAL	0051778	7-12-79	C	7-79	10	39505	139.00	
0141			31645	GENERAL TOOL & SUPPLY CO	153678	7-18-79	C	7-79	10	39529	259.52	
0141			31645	GENERAL TOOL & SUPPLY CO	153535	7-13-79	P	7-79	10	39529	86.28	
0141			81800	WALKER ELECTRIC WORKS	10912	7-16-79	C	7-79	10	39532	199.00	
0141			38640	INDUSTRIAL TOOL & SUPPLY	58648	7-20-79	P	7-79	10	39535	443.03	
0141			31645	GENERAL TOOL & SUPPLY CO	153646	7-17-79	C	7-79	10	39538	734.38	

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0141			31560	GENERAL RUBBER & SUPPLY	32468	7-19-79	C	7-79	10	39339	1,558.00	
0141			64120	QUIMBY WELDING SUPPLIES	30218	7-20-79	P	7-79	10	39341	28.80	
0141			64120	QUIMBY WELDING SUPPLIES	49931	7-19-79	P	7-79	10	39341	136.80	
0141			64120	QUIMBY WELDING SUPPLIES	49930	7-16-79	C	7-79	10	39342	915.00	
0141			21070	DAVIS INDUSTRIAL PRODUCT	067856	7-17-79	C	7-79	10	39364	226.50	
0141			03640	ARONSON INDUSTRIAL SPLY	A048973	7-18-79	P	7-79	10	39363	472.70	
0141			03640	ARONSON INDUSTRIAL SPLY	A049274	7-23-79	P	7-79	10	39363	183.20	
0141			38640	INDUSTRIAL TOOL & SUPPLY	39162	7-18-79	C	7-79	10	39367	157.92	
0141			64120	QUIMBY WELDING SUPPLIES	30064	7-18-79	P	7-79	10	39368	794.24	
0141			64120	QUIMBY WELDING SUPPLIES	49859	7-19-79	P	7-79	10	39368	175.00	
0141			31643	GENERAL TOOL & SUPPLY CO	134406	7-19-79	C	7-79	10	39374	703.78	
0141			03080	APEX INDUSTRIAL SUPPLY	21368	7-24-79	C	7-79	10	39373	193.00	
0141			50250	METRA STEEL CO	323364	7-19-79	C	7-79	10	39378	56.20	
0141			40228	J F W INDUSTRIES	4236	7-20-79	C	7-79	10	39379	38.00	
0141			03640	ARONSON INDUSTRIAL SPLY	A049089	7-19-79	P	7-79	10	39381	338.64	
0141			37220	KEN R HUMKE	39602	7-19-79	C	7-79	10	39382	27.31	
0141			47820	MAR-INDUSTRIAL SALES INC	01398	7-23-79	C	7-79	10	39393	461.40	
0141			44570	LA GRAND INDUSTRIAL SUPP	11093	7-20-79	C	7-79	10	39396	315.94	
0141			31643	GENERAL TOOL & SUPPLY CO	134441	7-19-79	C	7-79	10	39399	536.02	
0141			38640	INDUSTRIAL TOOL & SUPPLY	39369	7-20-79	P	7-79	10	39601	468.96	
0141			03640	ARONSON INDUSTRIAL SPLY	A049241	7-20-79	C	7-79	10	39603	60.48	
0141			03640	ARONSON INDUSTRIAL SPLY	A049233	7-20-79	P	7-79	10	39604	374.28	
0141			03640	ARONSON INDUSTRIAL SPLY	A049236	7-20-79	C	7-79	10	39604	232.92	
0141			43960	LINDSAY ENTERPRISES INC	9831	7-26-79	C	7-79	10	39613	199.90	
0141			08440	BEARINGS INC	P027000	7-27-79	C	7-79	10	39614	35.28	
0141			59800	PALM ABRASIVE & TOOL CO	26407	7-25-79	C	7-79	10	39613	232.17	
0141			31643	GENERAL TOOL & SUPPLY CO	134459	7-20-79	C	7-79	10	39619	539.31	
0141			31643	GENERAL TOOL & SUPPLY CO	134460	7-20-79	C	7-79	10	39620	61.92	
0141			59800	PALM ABRASIVE & TOOL CO	26418	7-25-79	P	7-79	10	39621	189.36	
0141			59800	PALM ABRASIVE & TOOL CO	26416	7-25-79	P	7-79	10	39621	1,669.68	
0141			03640	ARONSON INDUSTRIAL SPLY	A049393	7-24-79	C	7-79	10	39622	472.92	
0141			31643	GENERAL TOOL & SUPPLY CO	134476	7-23-79	C	7-79	10	39637	102.48	
0141			38640	INDUSTRIAL TOOL & SUPPLY	39399	7-24-79	C	7-79	10	39639	143.40	
0141			22641	DO ALL NORTHWEST CO	792914	7-25-79	C	7-79	10	39641	42.00	
0141			64120	QUIMBY WELDING SUPPLIES	30441	7-24-79	P	7-79	10	39644	312.35	
0141			31643	GENERAL TOOL & SUPPLY CO	134497	7-23-79	C	7-79	10	39646	323.50	
0141			03640	ARONSON INDUSTRIAL SPLY	A049433	7-24-79	C	7-79	10	39651	442.92	
0141			03640	ARONSON INDUSTRIAL SPLY	A049332	7-25-79	C	7-79	10	39673	506.21	
0141			45950	BONNIE LINDNER	PC-72379	7-23-79	C	7-79	60		7.30	
0141			45950	BONNIE LINDNER	PC-72379	7-23-79	C	7-79	60		13.00	
ACCOUNT TOTAL *****											41,156.74	
0142			25430	ELECTRICAL SPECIALTY CO	PT3330	5-29-79	A	7-79	10	33903	150.60	
0142			25430	ELECTRICAL SPECIALTY CO	CM-3980	5-25-79	A	7-79	10	33903	150.60-	
0142			60000	PARAMOUNT SUPPLY CO	CM-3054	7-20-79	A	7-79	10	34439	5.01-	
0142			27920	FAMILIAN NORTHWEST INC	934262	6-20-79	A	7-79	10	34574	124.35-	
0142			60000	PARAMOUNT SUPPLY CO	CM-798	7-20-79	A	7-79	10	34656	61.87-	
0142			27920	FAMILIAN NORTHWEST INC	934262	6-20-79	A	7-79	10	34857	14.50-	
0142			27920	FAMILIAN NORTHWEST INC	934262	6-20-79	A	7-79	10	34884	33.00-	
0142			74880	TAYLOR ELECTRIC SUPPLY	29023	6-25-79	C	7-79	10	36413	132.06	
0142			74880	TAYLOR ELECTRIC SUPPLY	35453	5-10-79	C	7-79	10	37122	318.87	
0142			74880	TAYLOR ELECTRIC SUPPLY	42393	6-27-79	A	7-79	10	37662	14.45	

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0142			60000	PARAMOUNT SUPPLY CO	4718	5-03-79	A	7-79	10	38510	115.36	
0142			65880	RENTEX CORP	90904	7-09-79	C	7-79	10	38758	583.75	
0142			10971	RAY BRISTOW CO	88793	7-19-79	C	7-79	10	38871	16.84	
0142			10971	RAY BRISTOW CO	76152	6-29-79	P	7-79	10	38871	9.37	
0142			67360	ROSE CITY AWNING CO	19297	6-01-79	P	7-79	10	38940	1,096.20	
0142			02430	AIRCO WELDING SUPPLY	466	6-26-79	C	7-79	10	38952	135.30	
0142			02430	AIRCO WELDING SUPPLY	P526295	6-22-79	P	7-79	10	38952	5,484.00	
0142			32953	GOODRICH FOREST PRODUCTS	2630	7-26-79	C	7-79	10	38968	8,477.11	
0142			70803	GEORGE SHORT CO	33814	6-11-79	P	7-79	10	39013	1,000.00	
0142			70803	GEORGE SHORT CO	34155	7-05-79	C	7-79	10	39013	152.88	
0142			70803	GEORGE SHORT CO	8872902	7-12-79	P	7-79	10	39013	1,114.06-	
0142			37220	KEN R HUMKE	53302	6-26-79	C	7-79	10	39025	26.88	
0142			60000	PARAMOUNT SUPPLY CO	9234	6-28-79	P	7-79	10	39027	26.00	
0142			27920	FAMILIAN NORTHWEST INC	01344384	7-02-79	C	7-79	10	39058	467.04	
0142			10971	RAY BRISTOW CO	76437	6-29-79	P	7-79	10	39105	205.50	
0142			10971	RAY BRISTOW CO	76151	6-29-79	P	7-79	10	39105	1,247.70	
0142			10971	RAY BRISTOW CO	87311	7-23-79	P	7-79	10	39105	263.88	
0142			10971	RAY BRISTOW CO	87822	7-15-79	P	7-79	10	39105	662.91	
0142			64120	QUIMBY WELDING SUPPLIES	47614	7-12-79	C	7-79	10	39128	62.40	
0142			10971	RAY BRISTOW CO	83547	6-27-79	P	7-79	10	39129	10.70	
0142			10971	RAY BRISTOW CO	86014	6-28-79	P	7-79	10	39129	208.50	
0142			53555	MDT APPARATUS & SUPPLY	2882NW	6-25-79	C	7-79	10	39159	81.00	
0142			53555	MDT APPARATUS & SUPPLY	2908NW	6-28-79	P	7-79	10	39159	81.00	
0142			60000	PARAMOUNT SUPPLY CO	8471	6-29-79	C	7-79	10	39165	244.20	
0142			10971	RAY BRISTOW CO	87823	7-15-79	C	7-79	10	39210	298.05	
0142			70803	GEORGE SHORT CO	34075	6-29-79	C	7-79	10	39250	474.75	
0142			10971	RAY BRISTOW CO	76436	6-29-79	P	7-79	10	39282	674.07	
0142			60000	PARAMOUNT SUPPLY CO	9005	6-29-79	C	7-79	10	39282	767.84	
0142			81835	WALTER WALKER DIST	27560	7-11-79	P	7-79	10	39290	223.04	
0142			62580	PORTLAND SCREW CO	3163	6-29-79	C	7-79	10	39356	141.33	
0142			60000	PARAMOUNT SUPPLY CO	9426	7-05-79	C	7-79	10	39374	164.50	
0142			62380	PORTLAND ELECTRIC & PLUM	P84397	6-29-79	C	7-79	10	39375	410.24	
0142			38035	IN-HAR SALES INC	19499	7-09-79	C	7-79	10	39376	415.80	
0142			10971	RAY BRISTOW CO	87071	7-11-79	C	7-79	10	39379	40.95	
0142			10971	RAY BRISTOW CO	87070	7-11-79	C	7-79	10	39387	12.14	
0142			60000	PARAMOUNT SUPPLY CO	9540	7-05-79	C	7-79	10	39399	85.50	
0142			65880	RENTEX CORP	1687	7-03-79	C	7-79	10	39415	1,943.40	
0142			60000	PARAMOUNT SUPPLY CO	9792	7-20-79	P	7-79	10	39416	1,627.74	
0142			60000	PARAMOUNT SUPPLY CO	9639	7-05-79	P	7-79	10	39416	360.50	
0142			60000	PARAMOUNT SUPPLY CO	9640	7-05-79	P	7-79	10	39416	1,879.82	
0142			63680	PRIESTLEY OIL & CHEMICAL	15730	7-03-79	C	7-79	10	39419	94.80	
0142			40228	J F W INDUSTRIES	6145	7-06-79	C	7-79	10	39420	35.86	
0142			74480	SYSTEM 99	3704671	7-10-79	P	7-79	28	39422	25.36	
0142			70803	GEORGE SHORT CO	34242	7-11-79	P	7-79	10	39422	194.75	
0142			50250	METRA STEEL CO	524972	7-06-79	C	7-79	10	39437	237.15	
0142			10971	RAY BRISTOW CO	87153	7-17-79	C	7-79	10	39449	73.11	
0142			60000	PARAMOUNT SUPPLY CO	9801	7-05-79	C	7-79	10	39450	312.45	
0142			66205	RICE SAFETY EQUIPMENT	64081	7-17-79	C	7-79	10	39460	1,131.50	
0142			57612	OREGON WIRE PRODUCTS	20638	7-15-79	P	7-79	10	39461	478.16	
0142			57612	OREGON WIRE PRODUCTS	20733	7-25-79	C	7-79	10	39461	112.20	
0142			62380	PORTLAND ELECTRIC & PLUM	P85150	7-12-79	C	7-79	10	39508	671.52	
0142			38035	IN-HAR SALES INC	19690	7-13-79	C	7-79	10	39511	241.92	
0142			67360	ROSE CITY AWNING CO	20144	7-17-79	C	7-79	10	39513	963.00	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VEND NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE C	DATA DATE	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0142			10971	RAY BRISTOW CO	87313	7-24-79	P 7-79		10	39316	17.94	
0142			21070	DAVIS INDUSTRIAL PRODUCT	867212	7-17-79	C 7-79		10	39318	243.00	
0142			31645	GENERAL TOOL & SUPPLY CO	153609	7-12-79	C 7-79		10	39320	133.17	
0142			25639	ELLIOTT SALES	27423218	7-16-79	P 7-79		10	39323	494.34	
0142			60000	PARAMOUNT SUPPLY CO	10359	7-20-79	C 7-79		10	39326	449.03	
0142			83770	WESTERN PAPER CO	1409	7-19-79	C 7-79		10	39328	449.70	
0142			16938	COAST INDUSTRIAL SUPPLY	63645	7-24-79	C 7-79		10	39605	1,514.59	
0142			38035	IN-MAN SALES INC	19834	7-26-79	C 7-79		10	39606	238.00	
0142			62380	PORTLAND ELECTRIC & PLUM	005717	7-23-79	P 7-79		10	39617	2,820.00	
0142			16938	COAST INDUSTRIAL SUPPLY	63730	7-23-79	C 7-79		10	39632	374.04	
0142			62380	PORTLAND ELECTRIC & PLUM	885714	7-23-79	C 7-79		10	39640	1,696.38	
0142			16938	COAST INDUSTRIAL SUPPLY	63988	7-27-79	C 7-79		10	39694	182.41	
0142			74880	TAYLOR ELECTRIC SUPPLY	43471	6-28-79	C 7-79		10	40108	29.52	
0142			32360	GERRARD SALES & SERVICE	2941	7-13-79	C 7-79		10	40136	54.51	
0142			74880	TAYLOR ELECTRIC SUPPLY	51723	6-25-79	C 7-79		10	40293	50.40	
0142			47820	MAR-DUSTRIAL SALES INC	00686	6-05-79	A 7-79		10	40401	291.06	
0142			47820	MAR-DUSTRIAL SALES INC	CK13244	6-04-79	A 7-79	7-27-79	10	40401	291.06-	
0142			74880	TAYLOR ELECTRIC SUPPLY	49115	6-25-79	P 7-79		10	40412	67.36	
0142			47820	MAR-DUSTRIAL SALES INC	CK13244	6-04-79	A 7-79	7-27-79	10	40467	233.78-	
0142			47820	MAR-DUSTRIAL SALES INC	P00789	6-08-79	A 7-79		10	40467	235.78	
0142			74880	TAYLOR ELECTRIC SUPPLY	51280	7-13-79	P 7-79		10	40543	67.44	
0142			38077	H & H SALES CO	001993	6-18-79	C 7-79		10	40609	154.00	
0142			05110	APOLLO MARINE SERVICES	592	7-10-79	C 7-79		10	40624	193.50	
0142			74880	TAYLOR ELECTRIC SUPPLY	31687	6-25-79	P 7-79		10	40627	101.36	
0142			74880	TAYLOR ELECTRIC SUPPLY	52178	6-26-79	C 7-79		10	40627	5.20	
0142			74880	TAYLOR ELECTRIC SUPPLY	52179	6-25-79	P 7-79		10	40627	18.92	
0142			66960	RODDA PAINT CO	17189	6-25-79	C 7-79		10	40705	97.65	
0142			63680	PRIESTLEY OIL & CHEMICAL	13394	6-25-79	C 7-79		10	40708	110.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	52416	6-26-79	P 7-79		10	40717	688.94	
0142			74880	TAYLOR ELECTRIC SUPPLY	53067	6-27-79	P 7-79		10	40717	16.87	
0142			74880	TAYLOR ELECTRIC SUPPLY	53052	6-27-79	C 7-79		10	40731	219.34	
0142			38035	IN-MAN SALES INC	19461	6-29-79	C 7-79		10	40738	142.15	
0142			62250	POPE RIGGING LOFT INC	9392	7-02-79	C 7-79		10	40759	684.00	
0142			74880	TAYLOR ELECTRIC SUPPLY	53427	7-03-79	C 7-79		10	40774	43.46	
0142			74880	TAYLOR ELECTRIC SUPPLY	53310	6-28-79	P 7-79		10	40774	326.87	
0142			34890	HARDWARE SPECIALTY CO	6258	6-28-79	C 7-79		10	40775	611.00	
0142			71670	SOUTHWEST DELIVERY CO	201172	6-28-79	A 7-79		28	40775	15.42	
0142			37220	KEN R HUMKE	56188	6-29-79	C 7-79		10	40778	26.40	
0142			74880	TAYLOR ELECTRIC SUPPLY	53437	6-29-79	C 7-79		10	40783	252.14	
0142			37220	KEN R HUMKE	55579	6-29-79	C 7-79		10	40785	37.41	
0142			74880	TAYLOR ELECTRIC SUPPLY	53977	7-03-79	C 7-79		10	40810	233.59	
0142			45910	LINCOLN ELECTRIC CO	E035437T	7-10-79	C 7-79		10	40900	2,503.87	
0142			04470	AMERICAN STEEL	79343	7-11-79	C 7-79		10	40922	125.38	
0142			74880	TAYLOR ELECTRIC SUPPLY	54937	7-10-79	P 7-79		10	40941	85.20	
0142			74880	TAYLOR ELECTRIC SUPPLY	54780	7-10-79	P 7-79		10	40941	279.29	
0142			45910	LINCOLN ELECTRIC CO	E036515T	7-17-79	C 7-79		10	40994	145.40	
0142			14990	CENTRAL SOLVENTS & CHEM	68520	7-10-79	C 7-79		10	41003	1,295.00	
0142			37220	KEN R HUMKE	57396	7-10-79	C 7-79		10	41014	35.20	
0142			47820	MAR-DUSTRIAL SALES INC	P01359	7-12-79	C 7-79		10	41016	263.16	
0142			47820	MAR-DUSTRIAL SALES INC	01358	7-11-79	P 7-79		10	41016	334.31	
0142			74880	TAYLOR ELECTRIC SUPPLY	55684	7-13-79	P 7-79		10	41059	166.96	
0142			04470	AMERICAN STEEL	80276	7-18-79	C 7-79		10	41088	124.60	
0142			32480	GILMORE STEEL	7177213	7-13-79	C 7-79		10	41091	36.19	

## SELECTED INVOICE DISTRIBUTION

JOB NUMBR	LINE NUMBR	S/O NUMBR	VENDR NUMBR	VENDOR NAME	IN INVOICE TP NUMBER	INVOICE P DATE	DATA C	ADJUST DATE	EX CD	P.O. NUMBR	INVOICE DISTRIBUTION	ACCT-JOB-S/O TOTALS
0142			38035	IN-MAR SALES INC	19740	7-17-79	C	7-79	10	41120	374.00	
0142			32360	GERRARD SALES & SERVICE	3006	7-23-79	C	7-79	10	41142	301.00	
0142			65991	RESEARCH TOOL & DIE WORK	24678	7-20-79	P	7-79	10	41143	185.18	
0142			65991	RESEARCH TOOL & DIE WORK	24669	7-19-79	C	7-79	10	41145	268.20	
0142			62250	POPE RIGGING LOFT INC	9570	7-20-79	C	7-79	10	41160	1,082.00	
0142			51335	V L MINKLER CO	5956	7-23-79	C	7-79	10	41207	58.23	
0142			04470	AMERICAN STEEL	81337	7-23-79	C	7-79	10	41209	27.81	
0142			48130	MARINERS SUPPLY CO INC	0230	7-23-79	C	7-79	10	41286	361.50	
0142			51335	V L MINKLER CO	6011	7-23-79	C	7-79	10	41311	42.50	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-05-79	C	7-79	60		3.00	
0142			70690	AL SHEVELAND	9872903	7-18-79	C	7-79	99		39.03	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-18-79	C	7-79	60		22.50	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-10-79	C	7-79	60		22.68	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-10-79	C	7-79	60		38.02	
0142			25886	WALLY EMERSON	PC-PETTY CASH	7-13-79	C	7-79	60		19.70	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-05-79	C	7-79	60		4.71	
0142			25886	WALLY EMERSON	PC-PETTY CASH	7-13-79	C	7-79	60		21.95	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-05-79	C	7-79	60		7.53	
0142			25886	WALLY EMERSON	PC-PETTYCASH	7-25-79	C	7-79	60		1.73	
0142			62270	PORT OF PORTLAND	57000A	7-03-79	C	7-79	99		2,025.96	
ACCOUNT TOTAL *****											37,226.42	
0144			45950	BONNIE LINDNER	PC-7979	7-09-79	C	7-79	60		3.00	
ACCOUNT TOTAL *****											3.00	
0146			46720	LUCKY JT DISTRIBUTING CO	933845	7-09-79	P	7-79	10	39273	71.50	
0146			08440	BEARINGS INC	P027084	7-27-79	C	7-79	10	39631	183.00	
0146			13100	C R B CO	10998	7-27-79	C	7-79	10	39664	55.00	
0146			13100	C R B CO	11019	7-26-79	C	7-79	10	39700	124.50	
ACCOUNT TOTAL *****											434.00	
0148			44550	W. LA BARRE MACHINE WORK	4683	7-17-79	P	7-79	10	38420	183.90-	
0148			44550	W. LA BARRE MACHINE WORK	4631	6-29-79	C	7-79	10	38420	459.00	
0148			08440	BEARINGS INC	P025600	7-10-79	C	7-79	10	39031	11.68	
0148			44550	W. LA BARRE MACHINE WORK	4660	7-17-79	C	7-79	10	39101	360.00	
0148			43355	KING BEARING INC	95A0589	7-17-79	C	7-79	10	39206	95.45	
0148			43355	KING BEARING INC	95A0508	6-28-79	C	7-79	10	39313	358.80	
ACCOUNT TOTAL *****											1,101.03	
0167			48445	MARSH & MCLENNAN INC	38260	6-25-79	C	7-79	99		4,908.00	
0167			48445	MARSH & MCLENNAN INC	38337	6-27-79	C	7-79	99		41,415.00	
0167			48445	MARSH & MCLENNAN INC	38335	6-27-79	C	7-79	99		5,020.00	
0167			48445	MARSH & MCLENNAN INC	38512	7-03-79	C	7-79	99		11,295.00	
0167			48445	MARSH & MCLENNAN INC	38511	7-03-79	C	7-79	99		100,416.00	
0167			48445	MARSH & MCLENNAN INC	38508	7-03-79	C	7-79	99		13,882.00	
0167			48445	MARSH & MCLENNAN INC	38509	7-03-79	C	7-79	99		6,121.20	
0167			48445	MARSH & MCLENNAN INC	38510	7-03-79	C	7-79	99		3,144.20	
ACCOUNT TOTAL *****											186,201.40	

4912 1/2 Bull  
8912 1/2 Green  
4712 1/2 White

ET DS JB

NW INVENTORY: P/E 140-141-142-146-148 Y/E 5-31-78

BZ WISE

PAGE 3 of 4

		1	2	3	4	5	6	7	8	9	10	11	12
		140	5-31-77 82.05 148,067.07	141	INCREASE <DECREASE>	142	5-31-77 162,223.89	146	5-31-77 17,455.49	148	5-31-77 115,168.32		
1	FEBR 1978 H/C 144	<397.35>											
2	Adjust			<8>									
3	Sub					3,423.35		5,100.42		23,559.35			
4	PO	16,135.58		28,234.42		32,565.66		2,559.89		211.13			
5	Share	<13,775.42>		<27,007.92>		<31,771.12>		<7,675.35>		<33,393.38>			
6	Total =	4,962.23	<32,540.35>	4,226.56	10,270.77	8,333.32	<183,075.45>	44.23	7,105.03	<597.10>	19,216.84		
7													
8	MARCH H/C 144	<615.53>											
9	Adjust												
10	Sub					2,820.30		4,854.39		23,655.25			
11	PO	10,511.33		34,107.12		43,156.74		3,452.88		3,000.14			
12	Share	<22,486.36>		<35,403.35>		<79,530.73>		<3,078.76>		<14,402.83>			
13	Total =	<9,374.38>	<43,722.74>	<4,296.23>	8,974.81	<33,773.77>	<216,547.74>	11,255.51	11,321.34	14,205.78	24,472.93		
14													
15	April H/C 144	<283>											
16	Adjust			<5>		<15>							
17	Sub					2,345.25		3,022.49		49,169.45			
18	PO	3,715.47		24,376.39		26,456.01		3,637.13		5,162.63			
19	Share	<17,600.27>		<28,390.46>		<77,352.85>		<4,945.93>		<20,459.37>			
20	Total =	<14,168.10>	<16,590.36>	<3,919.07>	5,255.80	<48,555.89>	<265,435.23>	17,14.77	13,231.13	31,872.74	56,345.57		
21													
22	MAY H/C 144	<543.70>						<30>		<1,860.69>			
23	Adjust	<10>		46		127,091.78		355.79		35,300.09			
24	Sub					1,520.19		3,767.44		23,324.58			
25	PO	2,631.10		22,156.40		49,330.87		3,255.31		1,250.27			
26	Share	<16,469.20>		<33,280.01>		<23,751.43>		<40,56.31>		<35,741.85>			
27	Total =	<13,337.70>	<70,278.05>	<11,123.61>	6,067.35	54,457.42	<30,925.11>	3,177.53	16,255.66	15,096.40	75,441.97		
28													
29													
30													
31													

4912 1/2 - Bull  
8912 1/2 - Green  
4212 1/2 - White

NW INVENTORY -

~~INCREASE~~ - (DECREASE)

Page 4 of 4

		2	3	4	5	6	7	8	9	10	11	12
		5-31-77	5-31-77	5-31-77	5-31-77	5-31-77	5-31-77	5-31-77	5-31-77	5-31-77		
		140	148,149 <sup>63</sup>	141	-0-	142	162,223 <sup>89</sup>	1116	17,485 <sup>69</sup>	145	115,123 <sup>82</sup>	
1	JUNE - 1977	3,887 <sup>28</sup>	153,037 <sup>60</sup>	3,109 <sup>21</sup>	3,109 <sup>21</sup>	37,340 <sup>92</sup>	124,982 <sup>97</sup>	6,160 <sup>25</sup>	16,325 <sup>64</sup>	24,281 <sup>43</sup>	92,986 <sup>89</sup>	
2	JULY	10,328 <sup>21</sup>	143,345 <sup>51</sup>	3,176 <sup>64</sup>	3,426 <sup>55</sup>	3,109 <sup>61</sup>	10,773 <sup>31</sup>	3,460 <sup>24</sup>	19,785 <sup>68</sup>	35,498 <sup>59</sup>	126,355 <sup>48</sup>	
3	AUG	4,294 <sup>15</sup>	158,071 <sup>35</sup>	89 <sup>34</sup>	3,512 <sup>19</sup>	20,873 <sup>31</sup>	100,960 <sup>-</sup>	1,832 <sup>21</sup>	17,953 <sup>47</sup>	9,180 <sup>09</sup>	112,205 <sup>34</sup>	
4	SEPT	11,049 <sup>35</sup>	147,022 <sup>-</sup>	280 <sup>30</sup>	3,235 <sup>84</sup>	35,565 <sup>51</sup>	65,331 <sup>32</sup>	3,777 <sup>02</sup>	21,730 <sup>49</sup>	16,387 <sup>88</sup>	133,593 <sup>27</sup>	
5	OCT	19,704 <sup>21</sup>	127,316 <sup>78</sup>	700 <sup>21</sup>	6,535 <sup>75</sup>	29,427 <sup>29</sup>	35,904 <sup>30</sup>	1,062 <sup>23</sup>	23,793 <sup>42</sup>	4,738 <sup>40</sup>	138,331 <sup>67</sup>	
6	NOV	14,505 <sup>21</sup>	113,811 <sup>33</sup>	12,343 <sup>38</sup>	5301 <sup>-</sup>	24,227 <sup>71</sup>	14,276 <sup>23</sup>	1,213 <sup>13</sup>	24,520 <sup>29</sup>	22,877 <sup>09</sup>	115,454 <sup>38</sup>	
7	DEC	13,882 <sup>71</sup>	99,928 <sup>82</sup>	8,873 <sup>28</sup>	8,174 <sup>23</sup>	6222 <sup>10</sup>	19,828 <sup>63</sup>	4,319 <sup>32</sup>	25,899 <sup>41</sup>	11,544 <sup>82</sup>	103,909 <sup>62</sup>	
8	JAN - 1978	13,412 <sup>14</sup>	113,340 <sup>96</sup>	873 <sup>15</sup>	9,247 <sup>43</sup>	42,932 <sup>21</sup>	23,054 <sup>05</sup>	1,320 <sup>82</sup>	24,578 <sup>79</sup>	23,072 <sup>54</sup>	125,982 <sup>24</sup>	
9	FEB	4,962 <sup>28</sup>	115,303 <sup>34</sup>	1,223 <sup>76</sup>	14,270 <sup>79</sup>	8,232 <sup>32</sup>	22,551 <sup>75</sup>	14 <sup>93</sup>	24,593 <sup>72</sup>	597 <sup>10</sup>	125,955 <sup>16</sup>	
10	MARCH	9,874 <sup>35</sup>	108,426 <sup>86</sup>	1,296 <sup>25</sup>	8,974 <sup>51</sup>	33,773 <sup>29</sup>	54,125 <sup>73</sup>	4,258 <sup>21</sup>	28,852 <sup>23</sup>	14,205 <sup>99</sup>	139,641 <sup>13</sup>	
11	APRIL	14,168 <sup>10</sup>	91,253 <sup>76</sup>	3,919 <sup>21</sup>	5,255 <sup>80</sup>	48,585 <sup>89</sup>	103,211 <sup>64</sup>	1714 <sup>09</sup>	30,544 <sup>82</sup>	31,873 <sup>74</sup>	171,513 <sup>89</sup>	
12	MAY	13,987 <sup>20</sup>	77,871 <sup>06</sup>	4,123 <sup>15</sup>	4,067 <sup>35</sup>	84,557 <sup>42</sup>	18,654 <sup>22</sup>	3,177 <sup>23</sup>	33,744 <sup>35</sup>	16,096 <sup>40</sup>	187,610 <sup>29</sup>	
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NORTHWEST MARINE IRON WORKS  
BOOK INVENTORY BALANCE 5/31/78

ART. #	DESCRIPTION	Prelim #1 Balance	ADJUSTED ADDITIONAL FOR CLOSED TO INV.	ADJUSTED BOOK BALANCE
#140	General Inventory	7767896		7767896
#141	SMALL TOOLS	(606735)		(606735)
#142	Mining Division	(1865527)		(1865527)
#144	LIQUOR INVENTORY	19210		19210
#146	Blue Base	333555	38879	3374435
#148	PRESCOTT	15717099	1186069 3230009	18761029
		24367494	3082819	27450313
<u>ATLAS</u>				
	General			642188
	Steel			13569590
				14211778
<u>AUTOMATIC</u>				
	General			10597331
	GASOLINE			154091



WIP160  
COMPANY: NORTHWEST MARINE

WIP - SALES AND COST OF SALES

PAGE 1

DATE 05-31-78

JOB #	CUSTOMER NAME	LABOR	PAYROLL TAX	MILEAGE	PURCHASES	STORES	OVERHEAD	TOTAL COST	DILLING	GAIN/LOSS
ACCOUNT 142										
5454	NWMIWKS 142	193.07	51.78		860.20	188.45	227.19	1,520.69		
TOTAL ACCOUNT 142		193.07	51.78		860.20	188.45	227.19	1,520.69		
ACCOUNT 146										
3623	NW 146	226.85	60.83			1,837.23	266.94	2,391.85		
3625	NW 146	17.04	4.57		75.00		20.05	116.66		
3628	NW 146	16.54	4.44		92.50	1.30	19.46	134.32		
3630	NW 146	19.81	5.31		29.25		23.32	77.69		
3632	NW 146	29.05	7.79			554.60	34.18	625.62		
3635	NW 146	8.30	2.23			390.60	9.77	410.90		
TOTAL ACCOUNT 146		317.59	85.17		196.75	2,783.81	373.72	3,757.04		
ACCOUNT 148										
4053	NW 148	168.57	46.40		957.35	55.79	232.60	1,460.71		
4087	NW 148	45.85	13.48		728.90	254.81	63.20	1,106.24		
4090	NW 148	171.73	49.23		521.42		216.96	959.34		
4101	NW 148	8.30	2.23		120.00	2.49	9.77	142.79		
4102	NW 148	29.03	8.05		140.40	25.20	35.26	237.94		
4103	NW 148	115.23	31.81		1,006.94	41.85	139.20	1,335.05		
4104	NW 148	58.07	15.57		4,228.00	912.22	68.34	5,282.20		
4105	NW 148	27.52	7.38		92.80	1.50	32.38	161.58		
4110	NW 148	29.59	7.81		130.00	59.83	33.66	260.89		
4111	NW 148	42.62	11.02		325.20	6.29	46.07	431.20		
4113	NW 148	21.16	5.49		372.30	1.50	23.13	423.60		
4116	NW 148	78.85	21.14			3,570.05	92.79	3,762.83		
4117	NW 148	624.83	167.55		632.82		735.26	2,160.46		
4120	NW A/C 148	69.95	18.76		75.00	.92	82.31	246.94		
4121	NW 148	50.30	13.14			293.60	55.76	412.80		
4123	NW 148	116.54	29.99		839.33	40.36	124.82	1,151.04		
4124	NW 148	33.17	8.44		3,160.00	552.81	34.55	3,788.97		
TOTAL ACCOUNT 148		1,691.33	457.49		13,330.46	5,819.22	2,026.08	23,324.58		
ACCOUNT 169										
5478	NW A/C 169	669.69	173.23		1,786.00	10.94	725.61	3,365.47		
TOTAL ACCOUNT 169		669.69	173.23		1,786.00	10.94	725.61	3,365.47		
ACCOUNT 180										
5266	NW A/C 180	7,449.64	2,032.75		22,323.60	3,310.66	9,223.25	44,339.90		
TOTAL ACCOUNT 180		7,449.64	2,032.75		22,323.60	3,310.66	9,223.25	44,339.90		

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JOB #	CUSTOMER NAME	LABOR	PAYROLL TAX	MILEAGE	PURCHASES	STORES	OVERHEAD	TOTAL COST	BILLING	GAIN/ LOSS
ACCOUNT 188										
2758	NW	214,765.30	61,738.24		586,488.45	21,413.80	70,854.14	955,259.93		
TOTAL ACCOUNT 188		214,765.30	61,738.24		586,488.45	21,413.80	70,854.14	955,259.93		
TOTAL SPECIAL ACCOUNTS		225,086.62	64,538.66	.00	624,983.46	33,526.88	83,429.99	1031,567.61	.00	

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0136			61722	PIHAS SCHMIDT WESTERDAHL		05-12-78	223.27	CE 021640	
0136			63825	PRUDENTIAL INS CO OF AM		05-12-78	80.40	ME 021412	
0136			72630	STANDARD INSURANCE CO		05-12-78	397.20	ME 021413	
0136			78740	TRANS/AUDIT		05-19-78	277.46	ME 021504	
0136			80330	UNITED STATES POSTMASTER		05-31-78	30.21	ME 021606	
				JOB TOTAL			609,646.72	*	609,646.72 **
0140			02470	AIRWELD	21179	04-24-78	109.36	PP 021793	
0140			59070	PACIFIC STEEL WAREHOUSE	21583	05-19-78	71.26	PP 022040	
0140			59070	PACIFIC STEEL WAREHOUSE	21589	05-06-78	54.58	PP 022040	
0140			02470	AIRWELD	22100	04-28-78	685.14	PP 021793	
0140			10971	RAY BRISTOW CO	22425	04-30-78	22.50	PP 021829	
0140			10971	RAY BRISTOW CO	22425	05-12-78	22.55	PP 021829	
0140			10971	RAY BRISTOW CO	22500	05-15-78	2.49	PP 021829	
0140			63680	PRIESTLEY OIL & CHEMICAL	22569	04-28-78	187.00	PP 022072	
0140			66960	RODDA PAINT CO	22571	04-28-78	63.50	PP 022084	
0140			59070	PACIFIC STEEL WAREHOUSE	22586	05-01-78	392.19	PP 022040	
0140			08440	BEARINGS INC	22601	05-09-78	91.96	PP 021817	
0140			49555	MCHASTER-CARR SUPPLY CO	22651	05-09-78	47.61	PP 021998	
0140			59070	PACIFIC STEEL WAREHOUSE	22782	05-16-78	453.22	PP 022040	
0140			59070	PACIFIC STEEL WAREHOUSE	22782	05-16-78	73.24	PP 022040	
0140			10971	RAY BRISTOW CO	22790	05-18-78	94.81	PP 021829	
0140			47680	MANNING PACKING & SUPPLY	22816	05-16-78	36.75	PP 021981	
0140			10971	RAY BRISTOW CO	22829	05-22-78	54.64	PP 021829	
0140			37220	KEN R HUMKE	22834	05-17-78	30.10	PP 021926	
0140			59070	PACIFIC STEEL WAREHOUSE	22881	05-22-78	63.60	PP 022040	
0140			82000	WANKE PANEL CO	22899	05-23-78	217.12	PP 022131	
				JOB TOTAL			2,631.10	*	2,631.10 **
0141			05640	ARONSON INDUSTRIAL SPLY	20751	05-16-78	70.87	PP 021812	
0141			05640	ARONSON INDUSTRIAL SPLY	21792	05-04-78	56.68	PP 021811	
0141			62380	PORTLAND ELECTRIC & PLUM	21814	05-03-78	33.30	PP 022062	
0141			31645	GENERAL TOOL & SUPPLY CO	21861	04-28-78	2.50	PP 021907	
0141			05640	ARONSON INDUSTRIAL SPLY	21879	04-27-78	34.90	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	21880	05-03-78	240.00	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	21880	05-11-78	147.90	PP 021811	
0141			21070	DAVIS INDUSTRIAL PRODUCT	21904	05-08-78	14.13	PP 021867	
0141			31645	GENERAL TOOL & SUPPLY CO	21933	03-17-78	10.92	PP 021909	
0141			31645	GENERAL TOOL & SUPPLY CO	21933	04-24-78	205.92	PP 021909	
0141			05080	APEX INDUSTRIAL SUPPLY	22196	04-05-78	64.80	PP 021807	
0141			09010	BERENSON HARDWARE CO	22240	04-06-78	240.96	PP 021820	
0141			82490	WATER METRICS CO	22321	05-08-78	47.55	PP 022134	
0141			05640	ARONSON INDUSTRIAL SPLY	22324	05-01-78	96.08	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	22324	05-05-78	30.80	PP 021812	
0141			05080	APEX INDUSTRIAL SUPPLY	22329	04-12-78	243.00	PP 021807	
0141			05080	APEX INDUSTRIAL SUPPLY	22374	04-17-78	630.00	PP 021807	
0141			45960	LINDSAY ENTERPRISES INC	22390	04-18-78	249.65	PP 021972	
0141			05080	APEX INDUSTRIAL SUPPLY	22408	04-18-78	144.00	PP 021807	
0141			05640	ARONSON INDUSTRIAL SPLY	22411	05-04-78	40.56	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	22419	05-16-78	126.48	PP 021812	
0141			31645	GENERAL TOOL & SUPPLY CO	22438	05-15-78	31.20	PP 021907	
0141			53440	MUNNELL & SHERRILL INC	22466	04-28-78	384.00	PP 022008	
0141			05080	APEX INDUSTRIAL SUPPLY	22470	04-21-78	660.00	PP 021807	

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0141			31645	GENERAL TOOL & SUPPLY CO	22471	04-21-78	156.58	PP 021907	
0141			05640	ARONSON INDUSTRIAL SPLY	22473	05-04-78	168.48	PP 021811	
0141			31645	GENERAL TOOL & SUPPLY CO	22490	04-21-78	3.84	PP 021907	
0141			45960	LINDSAY ENTERPRISES INC	22491	05-18-78	279.20	PP 021972	
0141			31645	GENERAL TOOL & SUPPLY CO	22507	04-24-78	15.00	PP 021907	
0141			31645	GENERAL TOOL & SUPPLY CO	22511	04-25-78	37.50	PP 021907	
0141			05640	ARONSON INDUSTRIAL SPLY	22517	05-10-78	17.34	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	22517	05-18-78	107.16	PP 021812	
0141			31645	GENERAL TOOL & SUPPLY CO	22520	04-25-78	226.08	PP 021907	
0141			02470	AIRWELD	22522	04-25-78	129.70	PP 021793	
0141			84650	WOODBURY & CO	22525	04-27-78	570.50	PP 022150	
0141			21070	DAVIS INDUSTRIAL PRODUCT	22528	04-26-78	68.50	PP 021867	
0141			48130	MARINERS SUPPLY CO INC	22530	05-18-78	31.20	PP 021987	
0141			31645	GENERAL TOOL & SUPPLY CO	22533	04-25-78	86.40	PP 021907	
0141			38640	INDUSTRIAL TOOL & SUPPLY	22542	04-28-78	25.29	PP 021942	
0141			45960	LINDSAY ENTERPRISES INC	22558	05-02-78	99.40	PP 021972	
0141			64120	QUIMBY WELDING SUPPLIES	22559	04-27-78	95.78	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22559	05-01-78	32.14	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22559	05-02-78	14.20	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22559	05-03-78	30.40	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22559	05-10-78	27.36	PP 022075	
0141			05080	APEX INDUSTRIAL SUPPLY	22560	04-28-78	566.40	PP 021807	
0141			31760	GENUINE PARTS CO	22561	04-28-78	14.24	PP 021910	
0141			21070	DAVIS INDUSTRIAL PRODUCT	22568	04-28-78	19.25	PP 021867	
0141			31645	GENERAL TOOL & SUPPLY CO	22573	04-28-78	65.90	PP 021907	
0141			05640	ARONSON INDUSTRIAL SPLY	22574	04-28-78	30.50	PP 021811	
0141			68920	SANDERSON SAFETY SUPPLY	22576	04-28-78	117.00	PP 022091	
0141			38640	INDUSTRIAL TOOL & SUPPLY	22580	05-03-78	563.64	PP 021942	
0141			05640	ARONSON INDUSTRIAL SPLY	22581	05-01-78	62.88	PP 021811	
0141			87070	ZEP MFG CO	22588	05-08-78	333.98	PP 022155	
0141			87070	ZEP MFG CO	22588	05-12-78	99.07	PP 022155	
0141			31645	GENERAL TOOL & SUPPLY CO	22602	05-01-78	92.90	PP 021907	
0141			64120	QUIMBY WELDING SUPPLIES	22607	05-01-78	298.65	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22607	05-02-78	83.65	PP 022075	
0141			31645	GENERAL TOOL & SUPPLY CO	22609	05-01-78	326.69	PP 021907	
0141			84650	WOODBURY & CO	22611	05-05-78	144.51	PP 022150	
0141			45960	LINDSAY ENTERPRISES INC	22616	05-04-78	343.40	PP 021972	
0141			05640	ARONSON INDUSTRIAL SPLY	22629	05-05-78	313.98	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	22629	05-10-78	78.24	PP 021811	
0141			54620	NEW YORK TWIST DRILL COR	22634	05-03-78	489.62	PP 022012	
0141			68920	SANDERSON SAFETY SUPPLY	22636	05-02-78	331.20	PP 022091	
0141			31645	GENERAL TOOL & SUPPLY CO	22644	05-03-78	322.38	PP 021907	
0141			31645	GENERAL TOOL & SUPPLY CO	22646	05-03-78	161.91	PP 021907	
0141			37220	KEN R HUMKE	22656	05-03-78	249.12	PP 021926	
0141			48130	MARINERS SUPPLY CO INC	22659	05-03-78	201.60	PP 021987	
0141			64120	QUIMBY WELDING SUPPLIES	22660	05-03-78	230.00	PP 022075	
0141			68920	SANDERSON SAFETY SUPPLY	22661	05-03-78	450.00	PP 022091	
0141			47650	MALMBERG TOOL & FORGE	22662	05-03-78	195.00	PP 021979	
0141			05640	ARONSON INDUSTRIAL SPLY	22663	05-05-78	68.60	PP 021811	
0141			13281	CALGON CORPORATION	22668	05-11-78	224.39	PP 021838	
0141			09010	BERENSON HARDWARE CO	22677	05-04-78	147.36	PP 021820	
0141			05640	ARONSON INDUSTRIAL SPLY	22680	05-09-78	231.72	PP 021811	
0141			05640	ARONSON INDUSTRIAL SPLY	22680	05-16-78	29.88	PP 021812	

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JOB #	SUF	S.O. #	VENDOR #	VENDOR NAME	P.O. #	DATE	PURCHASES AMOUNT	CHECK #	JOB TOTAL
0141			27920	FAMILIAN NORTHWEST INC	22681	05-08-78	149.76	PP 021893	
0141			64120	QUIMBY WELDING SUPPLIES	22683	05-04-78	269.80	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22683	05-18-78	128.88	PP 022075	
0141			84650	WOODBURY & CO	22686	05-11-78	103.09	PP 022150	
0141			31645	GENERAL TOOL & SUPPLY CO	22697	05-05-78	51.50	PP 021907	
0141			45960	LINDSAY ENTERPRISES INC	22700	05-11-78	278.03	PP 021972	
0141			05640	ARONSON INDUSTRIAL SPLY	22701	05-10-78	57.00	PP 021811	
0141			31645	GENERAL TOOL & SUPPLY CO	22711	05-10-78	412.29	PP 021908	
0141			64120	QUIMBY WELDING SUPPLIES	22712	05-08-78	40.00	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22712	05-10-78	21.50	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22712	05-24-78	283.20	PP 022075	
0141			37220	KEN R HUMKE	22713	05-09-78	194.40	PP 021926	
0141			50700	MILL & POWER SPECIALTIES	22714	05-09-78	132.00	PP 022001	
0141			05640	ARONSON INDUSTRIAL SPLY	22715	05-11-78	129.60	PP 021812	
0141			31645	GENERAL TOOL & SUPPLY CO	22734	05-15-78	43.80	PP 021908	
0141			64120	QUIMBY WELDING SUPPLIES	22744	05-10-78	206.10	PP 022075	
0141			31560	GENERAL RUBBER & SUPPLY	22745	05-19-78	282.96	PP 021906	
0141			17161	COLLINS OIL CO	22746	05-11-78	58.89	PP 021850	
0141			31645	GENERAL TOOL & SUPPLY CO	22747	05-10-78	46.32	PP 021908	
0141			31645	GENERAL TOOL & SUPPLY CO	22749	05-10-78	16.40	PP 021908	
0141			31645	GENERAL TOOL & SUPPLY CO	22749	05-10-78	11.97	PP 021908	
0141			34360	HALL TOOL CO	22751	05-10-78	25.50	PP 021920	
0141			45960	LINDSAY ENTERPRISES INC	22753	05-16-78	316.21	PP 021972	
0141			54620	NEW YORK TWIST DRILL COR	22764	05-12-78	70.56	PP 022012	
0141			05640	ARONSON INDUSTRIAL SPLY	22766	05-12-78	763.74	PP 021812	
0141			21070	DAVIS INDUSTRIAL PRODUCT	22767	05-12-78	31.22	PP 021867	
0141			21070	DAVIS INDUSTRIAL PRODUCT	22767	05-16-78	12.57	PP 021867	
0141			45960	LINDSAY ENTERPRISES INC	22768	05-17-78	225.55	PP 021972	
0141			31645	GENERAL TOOL & SUPPLY CO	22774	05-12-78	152.82	PP 021908	
0141			48130	MARINERS SUPPLY CO INC	22775	05-12-78	201.60	PP 021987	
0141			37220	KEN R HUMKE	22777	05-12-78	249.12	PP 021926	
0141			64120	QUIMBY WELDING SUPPLIES	22778	05-12-78	54.10	PP 022075	
0141			64120	QUIMBY WELDING SUPPLIES	22778	05-17-78	75.74	PP 022075	
0141			84650	WOODBURY & CO	22779	05-19-78	40.16	PP 022150	
0141			33270	WW GRAINGER INC #624	22795	05-15-78	58.70	PP 021916	
0141			08440	BEARINGS INC	22809	05-20-78	20.30	PP 021817	
0141			38600	INDUSTRIAL SPECIALTIES	22819	05-16-78	319.50	PP 021940	
0141			38600	INDUSTRIAL SPECIALTIES	22819	05-18-78	6.60	PP 021940	
0141			31645	GENERAL TOOL & SUPPLY CO	22820	05-16-78	374.00	PP 021908	
0141			64120	QUIMBY WELDING SUPPLIES	22821	05-16-78	124.22	PP 022076	
0141			64120	QUIMBY WELDING SUPPLIES	22821	05-18-78	343.68	PP 022076	
0141			05640	ARONSON INDUSTRIAL SPLY	22840	05-19-78	140.28	PP 021812	
0141			05640	ARONSON INDUSTRIAL SPLY	22840	05-19-78	45.60	PP 021812	
0141			38640	INDUSTRIAL TOOL & SUPPLY	22845	05-19-78	569.97	PP 021942	
0141			38600	INDUSTRIAL SPECIALTIES	22846	05-18-78	61.94	PP 021940	
0141			69630	SEAPORT INDUSTRIAL SUPP	22849	05-17-78	396.00	PP 022098	
0141			31645	GENERAL TOOL & SUPPLY CO	22850	05-18-78	89.25	PP 021908	
0141			45960	LINDSAY ENTERPRISES INC	22851	05-18-78	79.20	PP 021972	
0141			05640	ARONSON INDUSTRIAL SPLY	22863	05-19-78	232.97	PP 021812	
0141			48130	MARINERS SUPPLY CO INC	22867	05-18-78	201.60	PP 021987	
0141			37220	KEN R HUMKE	22886	05-22-78	15.84	PP 021926	
0141			48130	MARINERS SUPPLY CO INC	22887	05-23-78	273.60	PP 021987	
0141			64120	QUIMBY WELDING SUPPLIES	22893	05-22-78	37.78	PP 022076	

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JOB #	SUF	S.O. #	VENDOR #	VENDOR NAME	P.O. #	DATE	PURCHASES AMOUNT	CHECK #	JOB TOTAL
0141			64120	QUIMBY WELDING SUPPLIES	22893	05-24-78	9.48	PP 022076	
0141			05640	ARONSON INDUSTRIAL SPLY	22894	05-22-78	13.50	PP 021812	
0141			02430	AIRCO WELDING SUPPLY	22921	05-24-78	18.00	PP 021792	
0141			01120	ABBOTT & LIND INC	27684	05-04-78	412.80	PP 021785	
0141			84650	WOODBURY & CO	27838	04-27-78	13.50	PP 022150	
0141			55655	NORTHWEST TIRE SHOP SPLY	27932	04-28-78	29.40	PP 022023	
0141			38640	INDUSTRIAL TOOL & SUPPLY	28413	05-17-78	94.38	PP 021942	
0141			84650	WOODBURY & CO	28414	05-16-78	183.23	PP 022150	
0141			31645	GENERAL TOOL & SUPPLY CO	28424	05-15-78	59.42	PP 021908	
0141			02720	ALASKAN COPPER & BRASS	28447	05-23-78	90.95	PP 021795	
0141			44610	ARTHUR JACK LA MARR		05-09-78	21.92	ME 021342	
0141			80151	UNITED PARCEL SERVICE		05-13-78	2.00	CE 021653	
				JOB TOTAL			22,156.40	*	22,156.40 ** ✓
0142			38035	IN-MAR SALES INC	21954	05-04-78	417.03	PP 021935	
0142			60000	PARAMOUNT SUPPLY CO	21978	05-02-78	11.66	PP 022045	
0142			68997	SANICO	22042	04-28-78	962.25	PP 022092	
0142			68997	SANICO	22042	05-16-78	962.25	PP 022092	
0142			81835	WALTER WALKER DIST	22090	04-28-78	12.80	PP 022130	
0142			02470	AIRWELD	22100	04-28-78	1,887.12	PP 021793	
0142			87000	ZELLERBACK PAPER CO	22115	05-12-78	556.80	PP 022154	
0142			67360	ROSE CITY AWNING CO	22200	05-03-78	1,071.00	PP 022086	
0142			27920	FAMILIAN NORTHWEST INC	22215	04-27-78	69.05	PP 021891	
0142			38035	IN-MAR SALES INC	22216	05-04-78	193.60	PP 021935	
0142			27920	FAMILIAN NORTHWEST INC	22270	04-13-78	952.27	PP 021891	
0142			27920	FAMILIAN NORTHWEST INC	22270	05-15-78	47.10	PP 021891	
0142			38335	INDUSTRIAL GASKET INC	22342	05-05-78	233.40	PP 021936	
0142			65880	RENTEX CORP	22388	04-17-78	256.95	PP 022080	
0142			27920	FAMILIAN NORTHWEST INC	22399	04-25-78	62.42	PP 021891	
0142			27920	FAMILIAN NORTHWEST INC	22399	04-25-78	1,574.73	PP 021891	
0142			38035	IN-MAR SALES INC	22401	05-13-78	393.00	PP 021935	
0142			10971	RAY BRISTOW CO	22406	04-30-78	322.19	PP 021829	
0142			27920	FAMILIAN NORTHWEST INC	22485	04-25-78	909.67	PP 021892	
0142			27920	FAMILIAN NORTHWEST INC	22485	04-25-78	429.93	PP 021892	
0142			27920	FAMILIAN NORTHWEST INC	22485	05-18-78	20.40	PP 021892	
0142			10971	RAY BRISTOW CO	22493	05-12-78	51.60	PP 021829	
0142			61980	PIONEER STERILIZED WIPIN	22546	04-28-78	200.00	PP 022057	
0142			27920	FAMILIAN NORTHWEST INC	22548	04-27-78	84.38	PP 021892	
0142			27920	FAMILIAN NORTHWEST INC	22548	05-01-78	20.00	PP 021892	
0142			37220	KEN R HUMKE	22550	04-27-78	221.04	PP 021926	
0142			10971	RAY BRISTOW CO	22552	04-30-78	45.93	PP 021829	
0142			27920	FAMILIAN NORTHWEST INC	22567	05-01-78	102.60	PP 021892	
0142			64120	QUIMBY WELDING SUPPLIES	22572	05-02-78	275.00	PP 022075	
0142			68997	SANICO	22575	05-11-78	1,226.40	PP 022092	
0142			44799	LANE LABORATORIES INC	22587	05-01-78	576.00	PP 021966	
0142			81835	WALTER WALKER DIST	22590	05-05-78	11.52	PP 022130	
0142			81835	WALTER WALKER DIST	22590	05-11-78	14.08	PP 022130	
0142			81835	WALTER WALKER DIST	22590	05-15-78	47.24	PP 022130	
0142			38640	INDUSTRIAL TOOL & SUPPLY	22623	05-03-78	64.89	PP 021942	
0142			38640	INDUSTRIAL TOOL & SUPPLY	22623	05-15-78	17.40	PP 021942	
0142			37220	KEN R HUMKE	22624	05-02-78	44.87	PP 021926	
0142			37220	KEN R HUMKE	22624	05-18-78	10.54	PP 021926	
0142			27920	FAMILIAN NORTHWEST INC	22626	05-03-78	139.38	PP 021892	

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JOB #	SUF	S.O. #	VENDOR #	VENDOR NAME	P.O. #	DATE	PURCHASES AMOUNT	CHECK #	JOB TOTAL
0142			05640	ARONSON INDUSTRIAL SPLY	22630	05-05-78	56.12	PP 021811	
0142			05640	ARONSON INDUSTRIAL SPLY	22630	05-09-78	28.06	PP 021811	
0142			27920	FAMILIAN NORTHWEST INC	22642	05-04-78	1,186.08	PP 021892	
0142			33040	GOODYEAR RUBBER & SUPPLY	22645	05-04-78	76.80	PP 021915	
0142			61980	PIONEER STERILIZED WIPIN	22657	05-05-78	1,185.00	PP 022057	
0142			10971	RAY BRISTOW CO	22664	05-10-78	458.62	PP 021829	
0142			16938	COAST INDUSTRIAL SUPPLY	22665	05-08-78	1,104.93	PP 021847	
0142			27920	FAMILIAN NORTHWEST INC	22695	05-10-78	772.69	PP 021893	
0142			84650	WOODBURY & CO	22698	05-18-78	250.80	PP 022150	
0142			10971	RAY BRISTOW CO	22716	05-17-78	335.03	PP 021829	
0142			38035	IN-MAR SALES INC	22723	05-15-78	259.00	PP 021935	
0142			16938	COAST INDUSTRIAL SUPPLY	22731	05-12-78	732.53	PP 021847	
0142			27920	FAMILIAN NORTHWEST INC	22733	05-09-78	52.21	PP 021891	
0142			65880	RENTEX CORP	22758	05-11-78	367.65	PP 022080	
0142			38035	IN-MAR SALES INC	22791	05-18-78	359.80	PP 021935	
0142			62250	POPE RIGGING LOFT INC	22793	05-18-78	1,920.00	PP 022060	
0142			27920	FAMILIAN NORTHWEST INC	22797	05-19-78	1,002.65	PP 021891	
0142			38450	INDUSTRIAL PRODUCTS	22798	05-15-78	92.40	PP 021938	
0142			64120	QUIMBY WELDING SUPPLIES	22799	05-15-78	5.85	PP 022076	
0142			64120	QUIMBY WELDING SUPPLIES	22799	05-18-78	17.55	PP 022076	
0142			38335	INDUSTRIAL GASKET INC	22806	05-22-78	156.07	PP 021936	
0142			64120	QUIMBY WELDING SUPPLIES	22817	05-16-78	968.50	PP 022076	
0142			10971	RAY BRISTOW CO	22818	05-24-78	216.18	PP 021829	
0142			37220	KEN R HUMKE	22822	05-16-78	30.24	PP 021926	
0142			04050	AMERICAN-PACIFIC CORP	22841	05-23-78	153.90	PP 021801	
0142			68997	SANICO	22860	05-25-78	650.95	PP 022092	
0142			62380	PORTLAND ELECTRIC & PLUM	22865	05-18-78	2,276.69	PP 022062	
0142			27920	FAMILIAN NORTHWEST INC	22866	05-22-78	519.64	PP 021891	
0142			16938	COAST INDUSTRIAL SUPPLY	22871	05-23-78	393.68	PP 021847	
0142			64120	QUIMBY WELDING SUPPLIES	22872	05-18-78	30.00	PP 022076	
0142			81835	WALTER WALKER DIST	22990	05-30-78	177.94	PP 022130	
0142			74880	TAYLOR ELECTRIC SUPPLY	26901	04-26-78	16.20	PP 022117	
0142			74880	TAYLOR ELECTRIC SUPPLY	27172	04-25-78	9.66	PP 022117	
0142			55473	NORTHWEST MARKING SYS	27390	04-11-78	186.37	PP 022021	
0142			74880	TAYLOR ELECTRIC SUPPLY	27701	05-05-78	4.30	PP 022117	
0142			45910	LINCOLN ELECTRIC CO	27768	04-28-78	991.20	PP 021971	
0142			74880	TAYLOR ELECTRIC SUPPLY	27782	05-05-78	21.34	PP 022117	
0142			04470	AMERICAN STEEL	27882	05-02-78	35.78	PP 021802	
0142			63680	PRIESTLEY OIL & CHEMICAL	27942	04-28-78	1,361.00	PP 022072	
0142			37220	KEN R HUMKE	27945	04-28-78	11.20	PP 021926	
0142			34890	HARDWARE SPECIALTY CO	27975	05-01-78	364.50	PP 021921	
0142			74880	TAYLOR ELECTRIC SUPPLY	27981	05-02-78	194.98	PP 022117	
0142			74880	TAYLOR ELECTRIC SUPPLY	27981	05-16-78	26.40	PP 022117	
0142			83870	WESTERN WIRE WORKS	28027	05-02-78	194.34	PP 022143	
0142			74880	TAYLOR ELECTRIC SUPPLY	28060	05-03-78	12.10	PP 022118	
0142			47820	MAR-DUSTRIAL SALES INC	28066	05-02-78	301.85	PP 021982	
0142			47820	MAR-DUSTRIAL SALES INC	28066	05-10-78	103.95	PP 021982	
0142			16938	COAST INDUSTRIAL SUPPLY	28190	05-09-78	44.40	PP 021847	
0142			16938	COAST INDUSTRIAL SUPPLY	28190	05-12-78	15.30	PP 021847	
0142			32360	GERRARD SALES & SERVICE	28192	05-08-78	379.00	PP 021911	
0142			62580	PORTLAND SCREW CO	28193	05-09-78	110.50	PP 022069	
0142			80280	UNITED RADIO SUPPLY	28194	05-05-78	144.69	PP 022128	
0142			74880	TAYLOR ELECTRIC SUPPLY	28200	05-08-78	256.19	PP 022118	

APY350

COMP: NORTHWEST MARINE IRON WORKS

## MONTHLY INVOICE LISTING

DATED 5-31-78

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JOB #	SUF	S.O. #	VENDOR #	VENDOR NAME	P.O. #	DATE	PURCHASES AMOUNT	CHECK #	JOB TOTAL
0142			74570	TRW NELSON DIV	28227	05-11-78	1,846.39	PP 022115	
0142			74880	TAYLOR ELECTRIC SUPPLY	28241	05-11-78	186.83	PP 022118	
0142			74880	TAYLOR ELECTRIC SUPPLY	28241	05-18-78	135.10	PP 022118	
0142			14990	CENTRAL SOLVENTS & CHEM	28250	05-10-78	1,110.00	PP 021843	
0142			25430	ELECTRICAL SPECIALTY CO	28269	05-15-78	146.70	CE 021621	
0142			04470	AMERICAN STEEL	28297	05-18-78	66.69	PP 021803	
0142			34890	HARDWARE SPECIALTY CO	28320	05-10-78	129.21	PP 021921	
0142			34890	HARDWARE SPECIALTY CO	28320	05-10-78	855.78	PP 021921	
0142			74880	TAYLOR ELECTRIC SUPPLY	28341	05-11-78	453.05	PP 022118	
0142			74880	TAYLOR ELECTRIC SUPPLY	28341	05-11-78	70.80	PP 022118	
0142			48130	MARINERS SUPPLY CO INC	28404	05-18-78	48.80	PP 021987	
0142			60000	PARAMOUNT SUPPLY CO	28467	05-18-78	41.28	PP 022047	
0142			74880	TAYLOR ELECTRIC SUPPLY	28470	05-17-78	32.93	PP 022118	
0142			45910	LINCOLN ELECTRIC CO	28494	05-22-78	545.16	PP 021971	
0142			02720	ALASKAN COPPER & BRASS	28502	05-24-78	115.92	PP 021795	
0142			74880	TAYLOR ELECTRIC SUPPLY	28566	05-22-78	327.69	PP 022118	
0142			63680	PRIESTLEY OIL & CHEMICAL	28706	05-30-78	228.80	PP 022072	
0142			25885	WALLY EMERSON		05-15-78	1.83	ME 021417	
0142			40265	J & R WOOD SPECIALTIES		05-19-78	4,892.94	ME 021502	
0142			62270	PORT OF PORTLAND		05-03-78	2,953.79	NC	
0142			81835	WALTER WALKER DIST		05-24-78	14.06	CE 021706	
JOB TOTAL							49,230.87	*	49,230.87 ** ✓
0144			57331	OREGON STATE OF		05-17-78	768.60	ME 021489	
0144			57331	OREGON STATE OF		05-22-78	225.60	ME 021576	
JOB TOTAL							994.20	*	994.20 ** ✓
0146			30700	GENERAL CHAIN BAR	21701	05-12-78	222.30	PP 021903	
0146			30700	GENERAL CHAIN BAR	21849	05-19-78	927.06	PP 021903	
0146			08440	BEARINGS INC	22418	05-19-78	23.45	PP 021817	
0146			30700	GENERAL CHAIN BAR	22422	05-12-78	650.00	PP 021903	
0146			08440	BEARINGS INC	22510	04-28-78	130.60	PP 021817	
0146			08440	BEARINGS INC	22510	05-20-78	23.40	PP 021817	
0146			30700	GENERAL CHAIN BAR	22514	05-12-78	222.30	PP 021903	
0146			30700	GENERAL CHAIN BAR	22514	05-19-78	889.20	PP 021903	
JOB TOTAL							3,088.31	*	3,088.31 ** ✓
0148			50700	MILL & POWER SPECIALTIES	02281	05-16-78	113.60	CE 021635	
0148			64132	R & A DISTRIBUTORS INC	22178	05-09-78	234.40	PP 022077	
0148			37220	KEN R HUMKE	22478	04-21-78	591.00	PP 021926	
0148			64132	R & A DISTRIBUTORS INC	22704	05-10-78	136.18	PP 022077	
0148			08440	BEARINGS INC	22739	05-16-78	5.09	PP 021817	
JOB TOTAL							1,080.27	*	1,080.27 ** ✓
0167			48445	MARSH & MCLENNAN INC		05-03-78	3,510.00	PP 021990	
0167			48445	MARSH & MCLENNAN INC		05-16-78	15,000.00	ME 021486	
0167			48445	MARSH & MCLENNAN INC		05-17-78	875.00	PP 021990	
JOB TOTAL							17,635.00	*	17,635.00 **
0169			01905	EDGAR S ADAMS		04-30-78	12.25	CE 021725	
JOB TOTAL							12.25	*	12.25 **
0180			18485	CONSOLIDATED FREIGHTWAYS	27770	05-17-78	942.00	CE 021618	

NWMAR134404

891275 - Full  
891275 - Green  
471275 - White

BT DS JB

NW INVENTORY: #140-141-142-146-148 Y/E 5-31-78

BZ WASE

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		1	2	3	4	5	6	7	8	9	10	11	12
		140	5-31- 82.05 140,867.07	141	INCREASE (Decrease)	142	5-31 162,229.59	146	5-31 17,485.69	148	5-31 115,168.32		
1	OCT 1977	A/C 144	<431.2> 630 -										
2		Adjust											
3		Sub						1,211 <sup>30</sup>		13,161 <sup>34</sup>			
4		PO	6,932 <sup>42</sup>	27,157 <sup>24</sup>		49,701 <sup>13</sup>	726 <sup>81</sup>			457 <sup>38</sup>			
5		STOCK	<26,836 <sup>24</sup> >	<27,557 <sup>49</sup> >		<79,125 <sup>23</sup> >	<875 <sup>15</sup> >			<3,550 <sup>38</sup> >			
6		TOTAL =	<19,704 <sup>72</sup> >	<29,832 <sup>34</sup> >		<29,427 <sup>27</sup> >	<26,319 <sup>59</sup> >	1,062 <sup>93</sup>	5,307 <sup>73</sup>	4,738 <sup>40</sup>	23,163 <sup>35</sup>		
7													
8	Nov	A/C 144	<597 <sup>25</sup> > 72,180										
9		Adjust											
10		Sub				13,178 <sup>12</sup>		3,261 <sup>31</sup>		18,594 <sup>50</sup>			
11		PO	7,294 <sup>41</sup>	27,449 <sup>98</sup>		42,353 <sup>50</sup>	798 <sup>63</sup>			433 <sup>73</sup>			
12		STOCK	<26,930 <sup>21</sup> >	<28,654 <sup>54</sup> >		<79,659 <sup>39</sup> >	<5267 <sup>9</sup> >			<41,705 <sup>32</sup> >			
13		TOTAL =	<14,595 <sup>25</sup> >	<35,337 <sup>59</sup> >		<24,327 <sup>27</sup> >	<150,547 <sup>32</sup> >	4,004 <sup>60</sup>		<23,577 <sup>09</sup> >	286 <sup>26</sup>		
14													
15	DEC-1977	A/C 144	<192 <sup>83</sup> >										
16		Adjust											
17		Sub						5,515 <sup>50</sup>		16,783 <sup>75</sup>			
18		PO	6,115 <sup>44</sup>	32,109 <sup>37</sup>		62,505 <sup>33</sup>	1,356 <sup>81</sup>			2,562 <sup>34</sup>			
19		STOCK	<18,805 <sup>50</sup> >	<29,236 <sup>29</sup> >		<64,353 <sup>43</sup> >	<2,852 <sup>79</sup> >			<30,591 <sup>25</sup> >			
20		TOTAL =	<12,852 <sup>71</sup> >	<45,230 <sup>30</sup> >		8,174 <sup>160</sup>	8,222 <sup>10</sup>	<142,325 <sup>38</sup> >	4,319 <sup>32</sup>	8,413 <sup>22</sup>	<14,544 <sup>32</sup> >	<14,258 <sup>78</sup> >	
21													
22	JAN-1978	A/C 144	<819 <sup>26</sup> > 491 <sup>40</sup>										
23		Adjust	935 -	<3>		<245>							
24		Sub				7,164 <sup>58</sup>		531 <sup>49</sup>		44,205 <sup>12</sup>			
25		PO	37,649 <sup>70</sup>	35,239 <sup>43</sup>		38,538 <sup>31</sup>	1,151 <sup>10</sup>			8,628 <sup>19</sup>			
26		STOCK	<24,744 <sup>25</sup> >	<34,366 <sup>18</sup> >		<88,240 <sup>58</sup> >	<3,033 <sup>41</sup> >			<39,763 <sup>61</sup> >			
27		TOTAL =	13,412 <sup>14</sup>	<34,508 <sup>16</sup> >		9,047 <sup>113</sup>	<42,982 <sup>71</sup> >	<155,307 <sup>97</sup> >	7,000 <sup>10</sup>	23,072 <sup>44</sup>	19,313 <sup>94</sup>		
28													
29													
30													
31													

		1	2	3	4	5	6	7	8	9	10	11	12
		140	5-31-77 52,333 148,067.07	141	INCREASE (DECREASE)	142	5-31-77 163,223.89	146	5-31-77 17,485.69	148	5-31-77 115,168.28		
1	JUNE 1977	A/C 144	(23,440) 604.50										
2		Adjst											
3		Job											
4		PO	35,982.25	23,906.40		37,650.59		1,086.27		554.20			
5		Stores	(32,214.27)	(15,777.19)		(24,991.81)		(3,341.32)		(27,445.77)			
6		TOTAL	3,957.98	3,957.98	✓	7,109.21	✓	(37,340.22)	✓	(1,160.25)	(24,251.43)	(24,251.43)	
7													
8	JULY	A/C 144	(20,375)										
9		Adjst	18,787.32	5-31-77 ADJUSTMENTS				593.65	5-31-77 PO	10,595.53			
10		Job				1,902.76		4,097.14		57,299.33			
11		PO	14,267.47	21,695.10		59,276.47		360.61		722.74			
12		Stores	(22,322.85)	(21,377.16)		(64,288.91)		(4,391.96)		(13,462.01)			
13		TOTAL	10,325.21	✓ 14,214.19	✓	7,426.85	✓	(3,109.24)	✓	(4,279.37)	35,498.59	14,214.19	
14													
15	AUGUST	A/C 144	(33,470) 565.80										
16		Adjst											
17		Job											
18		PO	14,157.81	22,456.39		43,739.39		652.38		13,714.19			
19		Stores	(16,183.17)	(22,367.05)		(70,412.03)		(2,514.39)		(24,505.06)			
20		TOTAL	(4,294.46)	✓ 9,921.73	✓	7,514.19	✓	(61,323.59)	✓	467.78	(9,180.09)	2,037.07	
21													
22	SEPT	A/C 144	(26,410)										
23		Adjst	(1,150)	269									
24		Job											
25		PO	6,540.04	26,525.34		55,113.31		1,641.74		31,572.30			
26		Stores	(17,313.43)	(27,374.72)		(98,256.44)		(4,577.25)		(8,650.71)			
27		TOTAL	(1,049.35)	(1,127.62)	✓	7,235.81	✓	(96,592.50)	✓	4,244.80	16,357.88	18,424.25	
28													
29													
30													
31													

8912% - Full  
8912% - Green  
4712% - White

BT CA-2

PMCO - Monthly Report

MAY 1978

\* BZ

		1	2	3	4	5	6	7	8	9	10	11	12
		SALES	%	Cost of Sales	%	GROSS PROFIT	%	EXPENSE	%	Profit (Loss)	%	Inventory	%
1	MACHINERY	3,926,794	74.914	3,297,092	80.326	629,702	55.628	859,152	60.603	<229,450>	<80.314>	216,627	16.536
2	H. REACH	698,787	13.331	326,470	7.944	372,317	32.591	445,232	31.406	<72,915>	<25.352>	984,592	75.156
3	TYRANNE	445,753	8.562	337,535	8.213	111,258	9.829	104,776	7.590	6,482	2.269	33,051	2.522
4	MISC SALES	167,372	3.193	145,462	3.617	18,710	1.652	8,520	.601	10,190	3.567		
5	SAVING/COMP											75,502	5.756
6	Total =	5,241,736	100.000	4,109,749	100.000	1,131,987	100.000	1,417,680	100.000	<285,693>	<100.000>	1,310,672	100.000
7													
8													
9													
10													
11		SALES	%	Cost of Sales	%	GROSS PROFIT	%	EXPENSE	%	Profit (Loss)	%	Inventory	%
12													
13	MACHINERY	327,233	100.000	274,757	89.964	52,476	16.036	71,597	21.879	<19,121>	<5.543>	212,889	84.001
14	H. REACH	58,232	100.000	27,306	46.750	31,026	53.250	37,106	63.731	<6,080>	<10.441>	326,651	55.574
15	TYRANNE	37,399	100.000	28,127	75.208	9,272	24.792	8,733	23.351	539	1.441	33,159	44.15
16	MISC SALES	13,948	100.000	13,388	85.816	650	11.154	710	50.90	860	6.094		
17	SAVING/COMP											135,303	13.210
18	Total =	436,812	100.000	342,478	78.404	94,334	21.596	116,140	27.046	<23,506>	5.450	887,003	100.000
19													
20													
21													
22													
23		SALES	%	Cost of Sales	%	GROSS PROFIT	%	EXPENSE	%	Profit (Loss)	%	Inventory	%
24													
25	MACHINERY	245,852	100.000	220,923	89.860	24,929	10.140	77,168	31.388	<52,239>	<21.248>	6,640	3.260
26	H. REACH	140,162	100.000	74,597	53.222	65,565	46.778	55,154	39.350	10,411	7.425	852,005	96.5409
27	TYRANNE	92,989	100.000	73,241	79.408	19,748	21.245	8,025	8.625	11,723	12.624	<8,359>	<20.344>
28	MISC SALES	4,175	100.000	303	25.787	572	74.213	319	27.149	553	47.564		
29	SAVING/COMP											<85,422>	<52.983>
30	Total =	480,178	100.000	369,044	76.785	111,134	23.015	141,156	29.399	<30,022>	<6.381>	785,634	254.661
31													

NWMAR134407

## NWMMAR134408



## PORTLAND MACHINERY COMPANY

All Divisions (Including Marine Rental)

Financial Statement:

Fiscal Year 1978

Month of May 1978

Pre Lim #1

Description	1976 Avg.	1977 Avg.	Current Mo.	2 Mos. YTD	YTD Avg.	1978 Budget	% Var.
Sales	579,200	503,109	663,982	640,536	533,781		
Cost of Sales							
Purchases	265,185	349,051	365,924	363,705	303,094		
Stores	131,961	27,229	33,832	71,708	59,817		
Total	397,146	376,280	399,756	435,413	362,911		
Gross Profit	182,054	126,829	264,226	205,054	170,870	170,860	
%	31.4	25.2%	39.8	32.02	32.02		
SALES EXPENSE							
Salaries & Wages	34,774	15,234	11,040	17,828	14,857		
Craft Wages	19,053	7,278	8,696	7,962	6,168		
Sales Commissions	4,107	14,513	17,054	14,369	11,956		
Salesmen Base Wgs	26,569	8,009	9,839	9,731	8,110		
P/R Tax & Ins	12,039	8,297	6,705	8,777	7,481		
Maintenance	5,413	3,312	4,094	2,545	2,099		
Small Tools	472	(111)	-	235	195		
Rent	4,547	2,940	2,500	3,691	3,076		
Auto & Truck	4,832	3,053	6,053	4,270	3,532		
Utilities	1,178	1,167	1,169	1,054	883		
Depreciation	13,869	10,162	2,642	2,077	1,748		
Insurance	634	469	-	-	-		
Office Supplies	2,286	1,248	962	1,403	1,170		
Safety	178	29	132	794	65		
Employee Benefits			109	2,508	209		
Mileage			114	1,528	127		
Local Tax & License	2,566	605	110	1,722	1,441		
Miscellaneous	953	2,712	-	379	31		
Liability Insurance	1,957	2,934	<12,851>	<3,093>	<2,587>		
Interest Expense	(304)	42	-	-	-		
Travel & Entertmt	7,448	5,472	6,978	4,500	4,042		
Dues & Subscriptions	470	479	201	3,300	275		
Telephone	7,316	4,279	5,828	4,603	3,836		
Outside EDP	310	450	-	-	-		
Advertising & Promo.	3,518	4,468	3,160	3,905	3,267		
Bad Debts	2,664	(4)	-	-	-		
Contributions	138	36	-	125	10		
Professional Svcs.	1,958	242	13,596	15,049	1254		
Transfer	(2,595)	-	-	-	-		
Freight			621	3,163	2,684		
Total	156,350	97,315	112,061	109,887	91,568		
Division Inc (Loss)	25,704	29,514	152,165	95,128	79,310	79,312	
%	4.4	5.9%	22.92	14.86	14.86		
Administrative Exp.	4,903	25,676	26,375	29,123	24,269		
Operating Inc (Loss)	20,801	3,838	125,790	66,044	55,041	55,043	
Other Inc (Exp)	2,211	4,675	8,602	5,696	4,749		
Pre-adj Inc (Loss)	23,012	8,513	134,392	71,740	59,790	59,791	
%	4.0	1.7%	20.24	11.21	11.21		
Profit Sharing	22,055	12,163					
Bonus	6,005	2,438					
Auto Bonus	483	317	3,837	3,837	320		
Pre Tax Inc (Loss)	(5,531)	(6,405)	130,555	71,633	59,469		
Income Taxes	(2,667)			*	59,471		
Net Income (Loss)	(2,864)						
%	(0.5)						
Unallocated Svc Chg			9,400	112,800	9,400		
NW Interest Expense	10,939		7,428	86,915	7,243		
Adjusted Net	(13,803)		113,727	513,915	42,828		
NW Interest Exp	7,428	NW Totals	113,169				
Previous	84,830	Less: AW	51,298		89,132		
YTD	92,258	IPMCo Total	109,039	@ 84 %	÷ 12 =	7427.71	
AW Interest Exp	267	NW	51,298				
Previous	20,233	IPMCo	8,966		11,629		
YTD	21,202	IAW Total	140,958	@ 84 %	÷ 12 =	969.09	

PORTLAND MACHINERY COMPANY

Marine Rental Division

Financial Statement

Fiscal Year 1978

Month of May 1978

*Pre lim #1*

Sales Category	Billing	Sales	Purchases	Stores	Total Cost	Gross Profit %
New						
Used						
Parts						
Rentals	183804	183804	30064	28	30092	153712 83.63
Total	183804	183804	30064	28	30092	153712 83.63
=====						
Description	1976 Avg.	1977 Avg.	Current Mo.	2 Mos. YTD	YTD Avg.	1978 Budget % Var.
Sales	65,809	76,840	183804	1163633	96969	NONE
Cost of Sales						
Purchases	12,913	10,683	30064	244131	20344	
Stores	913	323	28	943	79	
Total	13,826	11,006	20092	245074	20423	
Gross Profit	51,983	65,834	153712	918559	76547	
%	80.0	85.7%	83.6%	78.94	78.94	
SALES EXPENSE						
Salaries & Wages	1,096	3,274	1,676	23423	1952	
Craft Wages	2,485	2,963	2,844	26195	2183	
Sales Commissions						
Salesmen Base Wgs.						
P/R Tax & Ins.	756	537	975	6508	542	
Maintenance	487	2,155		190	16	
Small Tools				101	8	
Rent	101	99	100	1,200	100	
Auto & Truck	9		7	21	2	
Utilities						
Depreciation	2,265	2,729	4,128	40,252	3354	
Insurance						
Office Supplies		2		45	4	
Safety	10	4				
Employee Benefits						
Mileage						
Local Tax & License	80	97		2,599	216	
Miscellaneous						
Liability Insurance	93	408	< 2,594 >	< 872 >	< 73 >	
Interest Expense						
Travel & Entertmt.						
Dues & Subscriptions						
Telephone			20	57	5	
Outside EDP						
Advertising & Promo.			7	7	.6	
Bad Debts						
Contributions						
Professional Svcs.						
Total	8,282	12,268	7163	99726	8310	
Division Inc (Loss)	43,701	53,566	146,549	818,833	-69,236	69,237
%	66.4	69.7%	79.74	70.37	70.37	
Administrative Exp.		385	1846	20385	1699	
Operating Inc (Loss)	43,701	53,181	144703	798448	-66537	66,538
Other Inc (Exp)		30	602	3985	332	
Pre-adj Inc (Loss)	43,701	53,211	145305	802433	-66869	66,870
%	66.4	69.3%	79.06	68.76	68.75	
Profit Sharing						
Bonus						
Auto Bonus			268	267	22	
Pre Tax Inc (Loss)	43,701	53,211	145037	802465	-66872	
Income Taxes				802,165	66,848	
Net Income (Loss)	43,701					
%	66.4	69.3%				
UNRECORDED S/C	107		458	7,596	658	
INTEREST						
Adjusted NET			144,379	794,869	66,190	



PORTLAND MACHINERY COMPANY

All Divisions (Excluding Marine Rental)

Financial Statement:

Fiscal Year 1978

Month of May 1978

*Per Kim #1*

Description	1976 Avg.	1977 Avg.	Current Mo.	2 Mos. YTD	YTD Avg.	1978 Budget	% Var.
Sales	513,391	426,269	480178	5241736	436811	455,000	< 4.0
Cost of Sales							
Purchases	252,272	338,368	335860	3392384	282740	296,000	(1.14)
Stores	131,048	26,906	33804	716965	59739	70,300	(15.03)
Total	383,320	365,274	369664	4109749	342479	355,300	(3.77)
Gross Profit	130,071	60,995	110514	1131987	3339432	98,700	(4.43)
%	25.3	14.3%	23.0%	21.6%	21.6	22%	(1.22)
Sales Expense							
Salaries & Wages	32,778	11,960	9364	154865	12905	13,200	(12.24)
Craft Wages	16,568	4,315	5852	47767	3981	3,560	(11.83)
Sales Commissions	4,107	14,513	17054	143469	11956	10,150	(17.8)
Salesman Basic Wgs	26,569	8,009	9839	97318	8110	6,900	(17.54)
P/R Tax & Ins.	11,283	7,760	5730	83269	6333	6,600	(5.14)
Maintenance	4,926	1,157	4094	25003	2024	1,125	(95.25)
Small Tools	472	(111)	-	2234	126	175	(6.29)
Rent	4,446	2,841	2400	33710	2976	2,975	(10.4)
Auto & Truck	4,823	3,053	6046	42349	3521	2,975	(18.16)
Utilities	1,178	1,167	1169	10594	883	580	(52.23)
Depreciation	11,604	7,433	22294	164321	14127	15,450	(8.57)
Insurance	634	469	-	-	-	1,000	-
Office Supplies	2,286	1,246	962	17998	1167	1,175	(16.9)
Safety	168	25	132	784	65	25	(16.0)
Employee Benefits			109	2508	209	195	(17.1)
Mileage			114	1528	127	200	(36.5)
Local Tax & License	2,486	508	110	14693	1224	1,375	(10.99)
Miscellaneous	953	2,712	-	378	32	-	-
Liability Insurance	1,864	2,526	< 10257	< 22217	< 1857	1,275	(33.70)
Interest Expense	(304)	42	-	-	-	-	-
Travel & Entertmt.	7,448	5,472	6978	49500	4042	2,800	(44.36)
Dues & Subscriptions	470	479	201	3300	275	240	(14.59)
Telephone	7,316	4,279	5808	46089	3841	3,550	(9.20)
Outside FDP	310	450	-	-	-	-	-
Advertising & Prom.	3,518	4,468	3153	39198	3267	2,575	(26.98)
Bad Debts	2,664	(4)	-	-	-	-	-
Contributions	138	35	-	125	10	-	-
Professional Svc.	1,958	242	13596	15049	1254	500	(150.8)
Transfer	(2,595)						
Freight			621	3163	264		
Total	148,068	85,047	104898	999091	23883260	78,700	(5.80)
Division Inc. (Loss)	(17,997)	(24,052)	5616	1328986	11075	27,000	< 4464
%	(3.5)	(5.6%)	1.7%	2.5%	2.5	4.4	
Administrative Exp.	4,903	25,676	24529	270849	225722571	21,553	(4.73)
Operating Inc. (Loss)	(22,900)	(49,728)	< 18913	< 1379543	11425	(1,553)	(64.4)
Other Inc. (Exp.)	2,211	4,675	8000	52991	4416	2,500	(76.64)
Pre-adj. Inc. (Loss)	(20,689)	(45,053)	< 10913	< 849632	7017	947	(53.14)
%	(4.0)	(10.6%)	2.2%	1.6%	1.6	2	
Profit Sharing	22,055	12,163					
Bonus	6,005	2,438					
Auto Bonus	483	317	3569	3569	298		
Pre Tax Inc. (Loss)	(49,232)	(59,971)	< 14482	< 985324	< 2377		
Income Taxes	(2,667)						
Net Income (Loss)	(46,565)						
%	(9.1)						
Unallocated Svc Chg			8742	104,904	8,742	947	
N.W. Interest Exp.	10,939		7428	92,253	7,685	2	
Adjusted Net	(57,504)		< 30,652	< 2,85696	< 23,807		
N.W. Interest Exp.	7,428	NW Totals					
Previous	84,830	Less: All					
YTD	92,255	PM Co Total		@	%	÷ 12 =	
A.W. Interest Exp.	969	NW					
Previous	20,233	PM Co					
YTD	21,202	AW Total		@	%	÷ 12 =	

## PORTLAND MACHINERY COMPANY

## Machine Tool Division

## Financial Statement

Fiscal Year 1978

Month of May 1978

Pre Lim #1

Sales Category	Billing	Sales	Purchases	Stores	Total Cost	Gross Profit	%
New	549766	176628	141271	21614	162885	13743	7.7
Used	6446	29259	25362	460	25822	3437	11.7
Parts	52769	39965	30692	1524	32316	7749	19.3
Rentals							
Total	608981	245852	197325	23598	220923	24927	10.1
Description							
	1976 Avg.	1977 Avg.	Current Mo.	Mos. YTD	YTD Avg.	1978 Budget	% Var
Sales	318,406	394,134	248852	3926794	3272331	385,000	(15.0)
Cost of Sales							
Purchases	188,113	329,597	197325	2743673	228589	266,000	(14.1)
Stores	78,546	15,849	23598	554019	46168	57,300	(19.4)
Total	266,659	354,446	220923	3297092	274757	323,300	(15.0)
Gross Profit	51,747	48,688	24929	629702	52476	61,700	(14.9)
%	16.3	12.4%	10.1	16.0	16.0	16.0	-
SALES EXPENSE							
Salaries & Wages	9,416	8,258	5866	119975	9998	11,000	(9.1)
Craft Wages	4,140	3,454	3627	35913	2993	2,685	11.5
Sales Commissions	3,245	12,213	7050	81393	6723	8,200	(17.3)
Salesmen Base Wgs.	11,587	5,950	5100	41649	3471	2,200	(57.7)
P/R Tax & Ins	3,891	5,852	3668	57116	4760	5,000	(4.8)
Maintenance	1,379	836	3683	18232	1519	575	164.2
Small Tools	107	(135)	-	1477	123	100	23
Rent	1,931	1,904	1775	26492	2208	2,350	(6.0)
Auto & Truck	1,592	2,000	2459	21447	1787	1,700	5.1
Utilities	492	1,112	773	9005	750	500	50
Depreciation	1,860	2,206	2375	28500	2375	2,250	5.5
Insurance	254	276	-	-	-	1,000	-
Office Supplies	895	993	800	10056	838	875	(4.2)
Safety	52	18	106	237	20	25	(20.7)
Employee Benefits			42	496	41	75	(45.3)
Mileage			-	-	-	-	-
Local Tax & License	905	400	110	12465	1039	1,075	(3.3)
Miscellaneous	354	2,701	-	73	6	-	-
Liability Insurance	1,153	2,292	(7725)	(1457)	(121)	1,125	(89.2)
Interest Expense	(345)	42	-	-	-	-	-
Travel & Entertmt.	2,922	4,477	3642	35086	2924	2,300	27.1
Dues & Subscriptions	267	431	175	2475	206	190	8.4
Telephone	3,386	3,444	4707	3695	3050	3,000	1.67
Outside FOP	310	450	-	-	-	-	-
Advertising & Promo.	1,510	2,229	1768	21527	1794	1,275	40.7
Bad Debts	90	(4)	-	-	-	-	-
Contributions	54	33	-	125	10	-	-
Professional Svcs.	1,024	181	13596 (1)	14879	1240	500	149
Transfer	(807)	-	-	-	-	-	-
Freight			417	2138	178	-	-
Total	51,664	61,613	53542	575894	47992	48,000	0.16
Division Inc. (Loss)	83	(12,925)	(29613)	539078	4484	13,700	(67.3)
%	.0	(3.3%)	(9.4%)	1.4%	1.4	3.6%	(6.1)
Administrative Exp.	1,634	12,838	19463	203857	16988	16,133	5.3
Operating Inc. (Loss)	(1,551)	(25,763)	(47076)	(150058)	(12504)	(2,433)	(414)
Other Inc. (Exp)	737	990	6022	39886	3324	1,875	77.28
Pre-adj Inc. (Loss)	(814)	(24,773)	(41054)	(1101643)	(9180)	(558)	(145)
%	(0.3)	(6.3%)	(12.5)	(2.8)	(2.8)	(.1)	(2700)
Profit Sharing							
Bonus							
Auto Bonus			2686	2686	224	-	-
Pre Tax Inc. (Loss)		24,773	(437407)	(1128507)	(9,404)	-	-
Income Taxes						(558)	-
Net Income (Loss)						(.1)	-
%		(6.3%)					
(1) CONSISTS OF SISTER LAWSUIT							
UNALLOCATED S/C	170		6,550	78,960	6550		
INTEREST			1,919	37,641	3137		
ADJUSTED NET			(52,239)	(229,450)	(19,121)		

PORTLAND MACHINERY COMPANY  
Special Products Division  
High Reach Subdivision

Financial Statement  
Fiscal Year 1978  
Month of May 1978

*Per Item # 1*

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Sales Category	Billing	Sales	Purchases	Stores	Total Cost	Gross Profit	%
<del>JKG</del>	35,000	73655	57559	-	57559	16096	21.75
<del>OTHER</del>	-	19881	1771	-	1771	18110	91.1
Parts	2810	1087	<514>	19	<495>	1582	145.54
Rentals (76)	63216	45539	15045	717	15762	29777	70.18
Total	101026	140162	73861	736	74597	65565	

Description	1976 Avg.	1977 Avg.	Current Mo.	Mos. YTD	YTD Avg.	1978 Budget	Var.
Sales			140162	698787	58232	40,000	43.58
Cost of Sales							
Purchases			73861	317236	26436	9,500	178.2
Stores			736	9234	770	2,500	149.2
Total			74597	326470	27206	12,000	126.7
Gross Profit			65565	372317	31026	28,000	10.8
%			48.05	53.3	53.3	700	<23.8>
SALES EXPENSE							
Salaries & Wages			2198	22,618	1885	1,500	25.6
Craft Wages			2062	11,610	962	875	10.6
Sales Commissions			9909	57,166	4764	1,500	217.6
Salesmen Base Wcs.			3499	42,268	3356	3,500	<4.1>
P/R Taxes & Ins.			1528	20,194	1683	1,200	14.25
Maintenance			257	4,097	341	400	<14.75>
Small Tools				541	45	50	<10.2>
Rent			500	7,712	643	500	28.6
Auto & Truck			3,172	17,430	1453	1,000	45.3
Utilities			331	958	80	50	60
Depreciation			19,719	138,621	11,552	13,000	<11.1>
Insurance							
Office Supplies			74	2,518	210	200	5
Safety			13	421	35		
Employee Benefits			50	1,937	153	100	53
Mileage			114	1,528	127	200	<36.5>
Local Tax & License				1,114	93	150	<39.7>
Miscellaneous				305	25		
Liability Insurance			(1,244)	(255)	<21>	50	<74.1>
Interest Expense							
Travel & Entertainment			2,132	9,384	782	300	160.6
Dues & Subscriptions			26	549	46	25	84
Telephone			684	5,037	420	350	20
Outside EDP							
Advertising & Promo.			1,258	14,318	1,193	1,100	9.45
Bad Debts							
Contributions							
Professional Svc.				150	13	50	<74>
Transfer							
FREIGHT			173	719	60		
Total			46,455	358,846	29906	26,100	14.6
Division Inc (Loss)			19110	13471	1120	1,900	<41.1>
%			13.6	19	1.9	4.8	<10.4>
Administrative Exp			3429	37862	3156	3,100	1.8
Operating Inc (Loss)			15681	<24397>	<2036>	(1,200)	<69.6>
Other Inc (Exp.)			1118	7406	617	355	73.8
Pre-adj. Inc. (Loss)			16799	<16991>	<1419>	(845)	<67.9>
%			11.9	<2.4>	<2.4>	(2.1)	14.2
Profit Sharing							
Bonus							
Auto Bonus			499	499	42		
Pre-Tax Inc (Loss)			16300	<17490>	<1461>		
Income Taxes							
Net Income (Loss)						(845)	
%						(2.1)	

① INCLUDES Commission of SALE to  
H/45 By FORNAUGH, EQUIPMENT  
C.I. 19,821.89

Unallocated S/C	113	1222	14,664	1222
INTEREST		4,667	40,761	3,997
Adjusted NET		10,411	<72,915>	<6,080>

## PORTLAND MACHINERY COMPANY

## Special Products Division

## Hydraulics Subdivision

Financial Statement

Fiscal Year 1973

Month of May : 78

Pre Audit #1

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Sales Category	Billing	Sales	Purchases	Stores	Total Cost	Gross Profit	
New	—	82752	61043	5999	67042	15110	18.99
Used							
Parts	10064	10237	3631	3168	6799	3438	33.57
Rentals							
Total	10064	92989	64674	9167	73841	19148	20.6

Description	1976 Avg.	1977 Avg.	Current Mo.	12 Mos. YTD	YTD Avg.	1978 Budget	Var.
Sales			92989	448783	37399	30,000	24.6
Cost of Sales							
Purchases			64674	224426	18702	10,500	78.1
Stores			9167	113099	9425	10,500	110.2
Total			73841	337525	28127	21,000	33.9
Gross Profit			19148	111258	9272	9,000	3.0
%			20.6	24.8	24.7	30.0	17.3
SALES EXPENSE							
Salaries & Wages			1300	12,272	1023	700	46.1
Craft Wages			163	244	20	—	—
Sales Commissions			95	4,910	409	450	9.1
Salesmen Base Wgs.			1240	15,401	1283	1,200	6.9
P/R Taxes & Ins.			532	5959	497	400	24.2
Maintenance			154	2,674	223	150	48.6
Small Tools				216	18	25	28
Rent			125	1,500	125	125	—
Auto & Truck			416	3,372	281	275	2.18
Utilities			65	631	53	30	76.6
Depreciation			200	2,400	200	200	—
Insurance							
Office Supplies			88	1,424	119	100	19.0
Safety			13	126	11	—	—
Employee Benefits			17	175	15	20	96.3
Mileage							
Local Tax & License				1,114	93	150	38.7
Miscellaneous							
Liability Insurance			<1288>	<509>	<42>	100	70.4
Interest Expense							
Travel & Entertainment			1204	4,030	336	200	68
Dues & Subscriptions				276	23	25	87
Telephone			417	4,457	371	200	85.5
Outside EDP							
Advertising & Promo.			127	3,353	279	200	39.5
Bad Debts							
Contributions							
Professional Svc.				20	2	50	96
Transfer							
FRIGHT			31	306	26	—	—
Total			4901	64,351	5365	4,600	16.6
Division Inc. (Loss)			14247	46907	3,907	4,400	11.2
%			15.2	10.46	10.46	14.7	—
Administrative Exp.			2637	29124	2427	2,320	4.1
Operating Inc. (Loss)			11610	17783	1480	2,080	28.8
Other Inc. (Exp.)			860	5699	475	270	75.9
Pre-adj. Inc. (Loss)			12470	23482	1955	2,350	16.8
%			13.47	5.24	5.24	7.8	—
Profit Sharing							
10% Bonus							
Auto Bonus			384	384	32	—	—
Pre-Tax Inc. (Loss)			12086	23098	1923	—	—
Income Taxes							
Net Income (Loss)						2,350	—
%						7.8	—
UNALLOCATED S/C 10			940	11,280	940	—	—
INTEREST			523	5,336	444	—	—
Adjusted Net			10,623	6,482	539	—	—

PORTLAND MACHINERY COMPANY

Miscellaneous Sales

Financial Statement

Fiscal Year 1978

Month of May 1978

*Pr. Item #1*

Sales Category	Billing	Sales	Purchases	Stores	Total Cost	Gross Profit	%
Forest							
Construction	1427	969	-	303	303	666	68.73
Miscellaneous		206				206	100.0
Total	1427	1175	-	303	303	872	68.73
Description	1976 Avg.	1977 Avg.	Current Mo.	Mos. YTD	YTD Avg.	1978 Budget	% Var.
Sales			1175	167372	13,948		
Cost of Sales							
Purchases			-	108144	9012		
Stores			303	40513	3,376		
Total			303	148662	12,328		
Gross Profit			872	18710	1560		
%			68.73	11.2%	11.2		
SALES EXPENSE							
Salaries & Wages							
Craft Wages							
Sales Commissions							
Salesmen Base Wgs.							
P/R Taxes & Ins.							
Maintenance							
Small Tools							
Rent							
Auto & Truck							
Utilities							
Depreciation							
Insurance							
Office Supplies							
Safety							
Employee Benefits							
Mileage							
Local Tax & License							
Miscellaneous							
Liability Insurance							
Interest Expense							
Travel & Entertainment							
Dues & Subscriptions							
Telephone							
Outside EDP							
Advertising & Promo.							
Bad Debts							
Contributions							
Professional Svc.							
Transfer							
Total			872	18710	1560		
Division Inc. (Loss)			68.73%	11.2%	11.2		
Administrative Exp.							
Operating Inc. (Loss)				18710	1560		
Other Inc. (Exp.)							
Pre-adj. Inc. (Loss)			872	18710	1560		
%			68.73%	11.2%	11.2		
Profit Sharing							
Bonus							
Auto Bonus							
Pre-Tax Inc. (Loss)							
Income Taxes							
Net Income (Loss)							
%							
Unallocated SIC			-0-	-0-	-0-		
Interest			319	8,520	710		
Adjusted NET			553	10,190	850		



PM Co = R. WIDE - INTEREST EXPENSE

Page 4 of 4

	1	2	3	4	5	6	7	8	9
		PM Co	March	H. RCA	TYNNE	SAVING/		R. WIDE	
		Total				Comp			
March-1978									
1 AV SALES/Month		438,626	341,133	44,222	30,599	16,352			
2 INVENTORY		835,151	218,374	463,040	40,254	114,433			
3 INTEREST XPOSE	79,936								
4 TOTAL = 1063052	1267,777		559,497	506,282	71,183	139,515			
5									
6 YTD = Interest XPOSE		79,936	35,278	31,922	4,455	8,248		18,664	
7 AV/Month		7,994	3,525	3,192	449	825		1,866	
8									
9 APRIL									
10 AV SALES/Month		438,569	354,631	53,754	32,345	15,189			
11 INVENTORY		848,542	212,545	465,020	39,714	116,223			
12 INTEREST XPOSE	84,530								
13 TOTAL = 10662	1251,411		347,176	535,504	72,059	125,372			
14									
15 YTD = Interest XPOSE		84,530	36,223	35,470	4,771	8,366		20,233	
16 AV/Month		7,112	3,019	3,225	434	760		1,689	
17									
18 MAY									
19 AV SALES/Month		436,812	327,233	59,232	37,399	13,945		21,202	
20 INVENTORY		857,023	212,885	526,611	39,159	108,305		1,747	
21 INTEREST XPOSE	92,258								
22 TOTAL = 1069691	1,323,515		540,118	584,832	76,558	122,536			
23									
24 YTD = Interest XPOSE		92,258	37,641	40,761	5,336	8,520			
25 AV/Month		7,688	3,137	3,397	444	710			
26									
27									
28									
29									
30									
31									

PMCO = R. WIDC - INTEREST EXPENSE

PAGE 3 of 3

	1	2	3	4	5	6	7	8	9
		PMCO				SAINT/			
		Total	March	H. Rch	TREAS	Comp		R. Wide	
DEC-1977									
1 AV SALES/MONTH		431,599	344,081	93,242	33,210	21,246			
2 INVENTORY		757,763	237,394	952,364	40,760	127,245			
3 INTEREST X PSE 104793	57,006								
4 Total =	1,159,362		581,475	385,606	73,770	148,511			
5									
6 YTD = Interest X PSE		57,006	27,870	18,482	3,536	7,118		12,152	
7 AV/MONTH		8,144	- 3,982	2,640	525	1,017		1,756	
8									
9 JAN-1978									
10 AV SALES/MONTH		413,318	324,281	35,127	33,924	19,986			
11 INVENTORY		789,342	232,131	394,129	40,834	122,268			
12 INTEREST X PSE 10546	65,665								
13 Total =	1,202,660		556,412	429,236	74,758	143,254			
14									
15 YTD = Interest X PSE		65,665	30,350	23,435	4,052	7,767		14,163	
16 AV/MONTH		5,228	3,795	2,929	510	971		1,770	
17									
18 FEBR									
19 AV SALES/MONTH		417,482	331,427	36,441	31,431	18,203			
20 INVENTORY		846,987	224,320	424,068	40,550	118,249			
21 INTEREST X PSE	73,487								
22 Total =	1,259,959	1,234,469	555,727	470,529	71,581	136,252			
23									
24 YTD = Interest X PSE		73,487	33,255	28,007	4,255	8,111		16,430	
25 AV/MONTH		6,168	3,676	3,112	476	901		1,826	
26									
27									
28									
29									
30									
31									

PM Co = A. WIDE - INTEREST EXPENSE

PAGE 2 of 3

	1	2	3	4	5	6	7	8	9
	SEPT-1977	PM Co Total	MADEY	H. RCH	TYNINE	SAWYER/ CAMPB		A. WIDE	
1	AV SALES/MONTH	393,456	327,373	29,155	28,109	14,735			
2	INVENTORY	675,565	235,637	254,756	42,399	145,771			
3	INTEREST X PSE	38,445							
4	TOTAL = 1,030,436	1,065,993	563,032	271,944	70,505	160,507			
5									
6	YTD = INTEREST X PSE	38,445	17,137	8,277	2,146	4,555		6,513	
7	AV/MONTH	8,111	4,254	2,069	537	1,321		1,628	
8									
9	OCT								
10	AV SALES/MONTH	454,496	367,567	30,855	39,270	16,503			
11	INVENTORY	715,790	240,555	293,102	41,018	149,512			
12	INTEREST X PSE	44,091							
13	TOTAL = 1,035,112	1,179,288	648,425	323,960	80,288	167,215			
14									
15	YTD = INTEREST X PSE	44,091	24,363	11,375	2,819	5,534		8,214	
16	AV/MONTH	8,218	4,272	2,275	564	1,127		1,643	
17									
18	NOV								
19	AV SALES/MONTH	461,747	369,597	31,055	36,551	24,564			
20	INVENTORY	731,954	236,454	321,295	40,743	193,495			
21	INTEREST X PSE	48,537							
22	TOTAL = 1,040,911	1,173,751	606,251	332,337	77,294	153,039			
23									
24	YTD = INTEREST X PSE	48,537	24,794	14,414	3,162	6,467		10,141	
25	AV/MONTH	8,140	4,132	3,493	527	1,078		1,690	
26									
27									
28									
29									
30									
31									



4912 1/2 - Buff  
8912 1/2 - Green  
4212 1/2 - White

PMCO / A. WIDE INTEREST XPOSE

PAGE 1 of 3

	1	2	3	4	5	6	7	8	9
		PMCO TOTAL	MINCHY	H. RCH	TYRONNE	SAWMILL/ CONRA		A. WIDE	
JUNE - 1977									
1 AV SALES / MONTH		428,376	336,977	7659	21,558	55,982			
2 INVTRY		600,216	220,052	181,813	40,447	157,904			
3 INTEREST XPOSE	6,458								
4 Total = 1.006315	1.023592		586,929	189,472	62,305	213,586			
5									
6 YTD - INTEREST XPOSE		6,458	3517	1197	993	1,351		1010	
7 AV / MONTH									
8									
9 July									
10 AV SALES / MONTH		335,231	550,589	10,872	21,436	22,084			
11 INVTRY		678,250	234,634	188,428	41,460	156,728			
12 INTEREST XPOSE	14,237								
13 Total = 1.014145	1.006481		545,223	199,800	63,146	178,512			
14									
15 YTD - INTEREST XPOSE		14,237	3995	2819	894	2,529		1935	
16 AV / MONTH		2,119	3998	1,409	447	1,265		968	
17									
18 AUGUST									
19 AV SALES / MONTH		375,282	317,184	21,419	22,441	14,358			
20 INVTRY		659,664	248,169	218,753	45,708	149,834			
21 INTEREST XPOSE	23,432								
22 Total = 1.038641	1.024,946		565,303	249,172	63,349	164,122			
23									
24 YTD - INTEREST XPOSE		23,432	12,799	3,437	1,480	3,716		4707	
25 AV / MONTH		2,811	4,266	1,812	493	1,239		1,569	
26									
27									
28									
29									
30									
31									

	Initials	Date
Prepared By		
Approved By		

PMCO

Monthly Interest Expense

Page 2 of 2

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		PMCO					
		Total	Mch	H. Rch	Tyrannic	Saw/Quar	
Febr '78							
1 SALES		450,804	388,418	46,956	11,491	3,939	
2 INVENTORY		1,033,149	161,833	753,748	38,275	84,293	
3 INT EXPSE	7,822						
4 Total Cost	1,428,953		550,251	800,704	49,766	88,232	
5 INT FOR MO	1005253		- 2,591	4,206	261	464	
6							
7 MARCH							
8 SALES		568,917	428,563	114,258	26,112	<10>	
9 INVENTORY		998,624	164,858	713,978	37,896	81,892	
10 INT EXPSE	6,449						
11 Total Cost	1,567,541		593,421	828,230	64,008	81,882	
12 INT. FOR MO	1004114	6,449	2,441	3,408	263	337	
13							
14 APRIL							
15 SALES		435,305	269,715	116,406	48,802	2,382	
16 INVENTORY		982,452	154,260	714,620	34,015	79,557	
17 INT EXPSE	5,343		423,975	831,026	80,817	81,939	
18 Total Cost	1,417,757						
19 INT FOR MO	1009769	5,343	1,598	3,132	- 304	309	
20							
21 MAY							
22 SALES		480,178	245,852	140,162	92,989	1,175	
23 INVENTORY		1,310,072	216,627	984,592	33,051	75,802	
24 INT EXPSE	7,428						
25 Total Cost	1,790,250		462,479	1,124,754	126,040	76,977	
26 INT FOR MO	1004149	7,428	1,919	4,667	523	319	
27							
28							
29 SALES							
30 INVENTORY							
31 INT EXPSE							
32 Total Cost							
33 INT FOR MO							
34							
35							
36 SALES							
37 INVENTORY							
38 INT EXPSE							
39 Total Cost							
40 INT FOR MO							
1							
2							
3							

PRICE - INTEREST XPOSE

MONTHLY

Page 2

		PRICE					
Aug		Total	INSTR	HI ROY	TYRONE	SAW/COMP	
SALES		375,288	317,134	21,419	28,441	14,288	
INSTRY		636,494	175,237	279,405	45,804	136,048	
INT XPOSE	9,195		492,971	300,824	68,243	150,336	
Total	1,011,776						
INTEREST 1009088		9,195	4,475	2734	620	1,366	
SEPT							
SALES		435,867	355,170	16,496	45,114	16,037	
INSTRY		723,266	125,051	350,763	40,869	125,833	
INT XPOSE	9,018						
Total	1,129,133		556,281	367,259	85,983	149,670	
Month of SEPT 10078		9,018	4,327	2,857	669	1,165	
OCT							
SALES		710,776	528,225	73,535	83,912	25,066	
INSTRY		870,691	261,732	468,488	35,496	120,975	
INT XPOSE	8,646						
Total	1,589,469		789,997	532,023	119,408	146,041	
Month of OCT 1005446		8,646	4,303	2,898	650	795	
Nov							
SALES		497,989	379,744	31,918	23,959	63,368	
INSTRY		812,951	214,433	462,244	39,368	96,906	
INT XPOSE	7,746		594,172	494,162	62,327	160,274	
Total	1,310,940						
Month of Nov 1008909			3,511	2,920	368	947	
DEC							
SALES		250,707	190,985	46,484	11,761	1,477	
INSTRY		912,438	243,035	538,793	40,860	89,750	
INT XPOSE	8,169						
Total	1,163,145		434,020	585,277	52,621	91,227	
Month of DEC 1007023		8,169	3,048	4,110	370	641	
JAN 1978							
SALES		285,345	185,679	48,321	40,321	11,024	
INSTRY		1,010,397	195,289	686,321	41,355	87,432	
INT XPOSE	8,659						
Total	1,304,742		380,968	734,642	81,676	98,456	
Month of DEC 1006683		8,659	2,546	4,909	546	658	

	Initials	Date
Prepared By		
Approved By		

PTA Co - Monthly Comparison

INVENTORY

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		MARCH	H. RCH	TYRONE	MISC SALE	SAW/COMP	Total
1	Y/E 5-31-77	209,787	101,987	41,440	-	161,224	514,438
2							
3	JUNE	220,052	181,813	40,447		157,904	600,216
4	JULY	349,216	195,048	42,474		155,551	742,289
5	AUG	175,237	279,405	45,804		136,048	636,494
6							
7	3 Mo Totals	744,505	656,260	128,725		449,503	1978,993
8	AV/Month	248,169	218,753	42,908		149,834	659,664
9							
10	SEPT	198,351	350,763	40,869		133,583	723,566
11	OCT	261,732	458,488	35,496		129,975	876,691
12	NOV	214,433	462,244	39,368		96,906	812,951
13							
14	6 Mo Totals	1,418,721	1,927,755	244,458		800,967	4,391,901
15	AV/Month	236,454	321,292	40,743		133,495	731,984
16							
17	DEC	243,035	538,793	40,860		89,750	912,438
18	JAN	195,289	686,321	41,355		87,432	1,010,397
19	FEBR	161,833	753,748	38,275		84,293	1,038,149
20							
21	9 Mo Totals	2,018,878	3,906,617	364,948		1,063,442	7,352,885
22	AV Per Month	224,320	434,068	40,550		118,049	816,987
23							
24	MARCH	164,858	713,978	37,896		81,892	998,624
25	APRIL	154,260	714,620	34,015		79,557	982,452
26	MAY	216,627	984,592	33,051		75,802	1,310,072
27							
28	12 Mo Totals	2,554,623	6,319,807	469,910		1,299,693	10,644,033
29	AV PER MONTH	212,885	526,651	39,159		108,308	887,003
30							
31							
32							
33							
34							
35							

4912 1/2 - Buff  
8912 1/2 - Green  
4212 1/2 - White

PMCG - INVENTORY

	1	2	3	4	5	6	7	8	9	10	11	12
	309,787			161,254			101,987		41,440		514,433	WIC INCREASE
	NIMBY		SAWYER		GRIPE		JLS		HYDE		TOTAL	(DECREASE)
1	MAY 31, 1975	350,102										
2	WO - RV	(20,751)										
3	Adjusted Total	317,351										
4	MAY 31, 1976	259,228										
5	WO - RV	(26,420)										
6	Adjusted Total	224,518										
7	MAY 31, 1977	243,142 <sup>14</sup>	6,999 <sup>98</sup>		40,033 <sup>72</sup>		-		41,440 <sup>91</sup>		329,776 <sup>75</sup>	
8	WO - RV	(30,955 <sup>44</sup> )	-		(18,570 <sup>32</sup> )		-		-		(48,745 <sup>76</sup> )	
9	Adjusted Total	209,786 <sup>70</sup>	6,999 <sup>98</sup>		21,503 <sup>40</sup>		-		41,440 <sup>91</sup>		279,730 <sup>99</sup>	
10												
11	JUNE - 1977	229,051 <sup>84</sup>	6,999 <sup>98</sup>		43,360 <sup>37</sup>		83,158 <sup>77</sup>		40,446 <sup>77</sup>		394,017 <sup>73</sup>	
12	JULY	349,215 <sup>74</sup>	6,999 <sup>98</sup>		39,796 <sup>13</sup>		25,742 <sup>26</sup>		40,473 <sup>80</sup>		444,447 <sup>91</sup>	
13	AUG	175,237 <sup>5</sup>	6,999 <sup>98</sup>		26,386 <sup>45</sup>		33,673 <sup>93</sup>		45,503 <sup>60</sup>		285,100 <sup>51</sup>	
14	3 Month Totals	744,504 <sup>73</sup>	20,997 <sup>94</sup>		109,742 <sup>95</sup>		146,594 <sup>36</sup>		126,724 <sup>17</sup>		1,146,566 <sup>15</sup>	
15	AV PER MONTH	248,168 <sup>24</sup>	6,999 <sup>98</sup>		36,580 <sup>98</sup>		48,864 <sup>45</sup>		42,908 <sup>06</sup>		382,188 <sup>71</sup>	
16												
17	SEPT	175,251 <sup>80</sup>	6,999 <sup>98</sup>		25,917 <sup>26</sup>		33,908 <sup>92</sup>		40,565 <sup>49</sup>		305,745 <sup>21</sup>	
18	OCT	241,732 <sup>46</sup>	6,999 <sup>98</sup>		18,549 <sup>77</sup>		34,074 <sup>08</sup>		35,495 <sup>51</sup>		356,851 <sup>80</sup>	
19	NOV	214,433 <sup>25</sup>	6,999 <sup>98</sup>		18,263 <sup>37</sup>		34,319 <sup>78</sup>		39,368 <sup>01</sup>		313,384 <sup>39</sup>	
20	6 Month Totals	1,418,721 <sup>64</sup>	41,997 <sup>85</sup>		170,473 <sup>11</sup>		244,597 <sup>14</sup>		244,456 <sup>18</sup>		3,122,547 <sup>95</sup>	
21	AV PER MONTH	236,453 <sup>21</sup>	6,999 <sup>98</sup>		28,745 <sup>35</sup>		40,816 <sup>19</sup>		40,742 <sup>70</sup>		353,758 <sup>-</sup>	
22												
23	DEC	243,035 <sup>34</sup>	6,999 <sup>98</sup>		13,819 <sup>23</sup>		34,467 <sup>80</sup>		40,560 <sup>03</sup>		339,182 <sup>98</sup>	
24	JAN - 1978	195,289 <sup>30</sup>	6,999 <sup>98</sup>		13,172 <sup>14</sup>		34,620 <sup>36</sup>		41,355 <sup>23</sup>		291,436 <sup>81</sup>	
25	FEBR	161,833 <sup>09</sup>	6,999 <sup>98</sup>		11,233 <sup>27</sup>		27,85 <sup>53</sup>		38,275 <sup>21</sup>		226,129 <sup>10</sup>	
26	9 Month Totals	3,018,879 <sup>37</sup>	68,997 <sup>82</sup>		210,699 <sup>78</sup>		321,770 <sup>85</sup>		364,946 <sup>45</sup>		3,979,296 <sup>24</sup>	
27	AV PER MONTH	224,319 <sup>23</sup>	6,999 <sup>98</sup>		23,411 <sup>08</sup>		35,752 <sup>32</sup>		40,549 <sup>21</sup>		331,032 <sup>92</sup>	
28												
29	MARCH	164,857 <sup>89</sup>	6,999 <sup>98</sup>		11,224 <sup>77</sup>		9,994 <sup>29</sup>		37,595 <sup>62</sup>		230,972 <sup>53</sup>	
30	APRIL	154,259 <sup>72</sup>	6,999 <sup>98</sup>		9,454 <sup>02</sup>		11,170 <sup>45</sup>		34,014 <sup>28</sup>		215,899 <sup>15</sup>	
31	MAY	214,627 <sup>11</sup>	6,999 <sup>98</sup>		8,290 <sup>94</sup>		11,425 <sup>28</sup>		33,251 <sup>57</sup>		276,394 <sup>82</sup>	
32												
33	Y/E Totals	2,554,624 <sup>02</sup>	83,999 <sup>76</sup>		239,609 <sup>48</sup>		354,360 <sup>81</sup>		469,908 <sup>63</sup>		3,702,902 <sup>76</sup>	
34	AV PER MONTH	212,885 <sup>34</sup>	6,999 <sup>98</sup>		19,972 <sup>46</sup>		29,530 <sup>07</sup>		39,159 <sup>02</sup>		308,546 <sup>90</sup>	



General Outline -Requested Discussion -w/BillZavin -5/3/79

A. Situation to date between Atlas and Multi-Sort. Dates approx.

1. Original request by Lynn Perrott for general cost estimates on steel framing for two projects -supplied around 3/1/79.

2. Further discussion w/Bill Zavin and presentation of artist concepts and request by Multi-Sort for help by Atlas in supplying demo. frame. 4/10/79.

3. Repeat presentation with Rich Grubb and Larry Hagler being present about a week later.

B. Projects defined.

1. "Chassis Flipper" and Storage Cartridges.

2. "Trailer Stacker" and Storage facility -Beehive of Style

C. Current status of Projects.

1. Chassis Flipper being built to attach to a Model L-40 "Lumberjack". Will be done and working around May 24th. Allow a week to ten days for shake down thus should be ready for working with cartridge no later than the first week in June.

Atlas has agreed to provide demo. and test cartridge which hopefully could also be ready by this time. If both projections are met then we should be ready to make a public presentation by week of June 11th. No firm dates committed to anyone as yet though S.P. getting anxious.

Port of Portland through Lloyd Anderson and Garry Whyte contacted for source of demo. site and chassis supply. All indications are O.K. pending their labor and liability clarification. If not Albina U.P. yard also ideal spot and confident arrangements can be made.

Patent applications have been on both Flipper attachment and cartridge through Oliver Olson.

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Very primary overall appraisal, however, some facts are emerging that encourage continued efforts.

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D. Con't.

2. The locations of the handling facilities for this type of Cargo -that is Ports and Rail Piggyback Yards are in ~~the~~ most cases in very crowded and congested areas and where available land is non existant or very expensive. There are some exceptions noteably Port-land, Ore. which does not speak well of our competetive shipping position. Tacoma also has a lot of land. But most places have a problem of space and in fact this whole trend of thought was start-ed by the Manager of the S.P. Los Angeles Piggyback Yard.

3. The Flipper answers one of the storage problems of the Chassis in a positive manner and also could reduce theft and "hoestling" labor time and could provide electronic inventory controll. There are other concepts and approaches to this problem also but as of this writing we have seen none as advanced as this. While the first unit we believe may be overbuilt as far as strenth goes thus too heavy we felt it best to be sure of the ability to handle the stress and weights created by function then go from there to reduce weight thus cost. It is an ideal concept in that it (after we are through with testing and design) should be able to be put on any make Forklift of suitable capacity including used ones. Hopefully this will turn out to be a 30,000lb. unit but this factor unknown at this time. It will also be important to design and built so that with very little effort it can be a multiple purpose attachment - current thinking indicates an attachment for empty container stacking and railcar 5th wheel(stanchion) raising. Other potentials may arise.

The cartridge or storage racks offers a even greater potential to the manufacturer for profit because of larger dollar amounts involved. There will have to be additional time and engineering devoted to refining the uniques of design. These areas include the inventory controll potential and the potential of Flipper operator activating the seperating arms or bars without outside help. The possibility of damage to the chassis rear end or bottom end when in an upright position will have to be carefully appraised. Study had been conducted in all these areas and we believe we can proceed with what we have as it will certainly accomplish many of our objectives. The design will and does take into consideration shipping problems and the desireability of movement of storage within the Port or Yard is another consideration factor.

4. The customer profile for the Flipper was orginally that of the rail yard. However it now appears that the Ports offer an equal potent-ial. The practices of Chassis removal and return to either the Port or Yard by Container(also cha ssis) owner is very expensive. We believe there is a potential of on site storage which could materially effect an increased market for this product at both Port and Yard. Again this will take promotional concept time. We have allready spoken to the basic problem of space. To attempt to say how many customers are there for the Flipper at this time would be dangerous. Based on some very rough guessistmates, we offer the following.

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There are within the United States approx. 128 Railyard locations where Containers are a major problem. Fifty of these are under current pressure.

D. Cony'd.

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With the understanding that we meet the basic mechanical problems --that we produce a ## dependable product -that we are competitive as to price and promotional expertise -because we know others, currently Drott, will be in this field -then we believe the following volume is a obtainable objective on a conservative basis.

"Chassis Flipper and Cartridge"

Year	Port	Rail	Total
1979	4	4	8
1980	8	12	20
1981	20	15	35
1982	30	20	50
1983	25	10	35
	<u>87</u>	<u>61</u>	<u>148</u>

Under today's (1979) return on investments concepts we hope that we can market the attachment for around \$30,000.00 F.O.B. Portland. We may find the attaching costs and problems reduce this price some or add to our costs materially. Actually we do not know what the market will stand and we know that no intelligent manufacture will build at a loss. This figure is nearly a comfortable objective. Based on our experiences in # building the first one we believe under volume circumstances that a manufacturer's labor and material cost should not exceed \$10,000.00 thus he could sell to a distributor for \$20,000.00 who in turn could reach for this \$30,000.00 objective. At this time this is an exercise in mental gyrations. Now the real dollar volume and potential rests in the cartridge. Who knows where this can go or the limitations in profit or volume. Without regard to profit- and on the assumption that the minimum cartridge installation will average \$100,000.00 this could be one fine business. The original cartridge installation will probably be the minimal ? maybe \$40,000.00. Anyhow it's worth an effort to bring this into existence or on the launching pad. And the key to the situation is that it answers a primary problem for a basic industry.

As of this writing our physical market survey is limited. Please note Lynn's report on his brief contacts in Seattle. However through cursory contacts and inquiries we are fairly comfortable with above market projections in regards to the "Flipper".

5. The Trailer Stacker answers basically one problem only in our concept at this time and that is space. It may have other potential in in pre-train or ship loading patterns which the user can determine. We originally saw it only in the rail yard and still believe this is the major market, however, there may be some potential on the docks. This concept has been often approached by many firms including such giants as F.M.C. yet today we see no visual evidence of either Container or Trailer storage. That is in this form. Both storage currently exist and are answered by space utilization. On the Docks you do see the four high space saving storage practices. Thus it would be our estimate at this time that the Trailer Storage unit primarily answers problems only for those Rail Yards that are in desperate situations as to room. How many of these exist we are not sure of. We know for sure that the Santa Fe at Croxton (Chicago) is in desperate trouble.



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The Burlington at South Seattle is another potential and it would take very little effort to discover a dozen more including the Western Pacific at Oakland and the U.P. in Los Angeles.

The mechanical design concept is of extreme importance in this primary stage and we believe the basics of a functional tool very potentially exist in what we have done to date. It would be a serious error to represent this to be at the same state as the Flipper yet it is started. It became immediately obvious that the same customer that existed for the Flipper could be a more important customer for the Stacker however not in the same numerical number. The dollars could be the same.

The complexity of mechanical problems is not to be underestimated ~~or under-estimated~~ as the configuration of Trailers varies considerably as to manufacturer or useage. However uniformity can be guided or forced. Anyhow we are ready and willing to continue the design of this machine as we can see it as a possibility in all concepts and have registered what we believe to be the key to the problem.

The lift device we believe is going to be a product that will probably sell for around \$250,000.00. For comparison the current price of a Wagner "Piggypacker" is \$340,000.00 and the Drott straddle crane around \$425,000.00. We have no idea of what the Honeycomb or storage area will sell for. It looks as if each trailer storage space this creates will cost around \$10,000.00. This represents a \$350,000.00 acrea land cost, to do the same job. If it's available they will buy and develop it. If not they will have to face as much as a \$100,000,000.00 move for room.

Strictly on a guess basis let us assume that a basic unit that is a 96 trailer storage complex and a lift machine will, will sell for \$850,000.00 and remember others have approached this problem in various forms. This is our educated guess.

Trailer Stacker and Stye

Year	Port	Rail	Total
1979		1	1
1980	1	3	4
1981	2	6	8
1982	2	10	12
1983	#2	15	17
	7	35	42

The existance of these estimates for both the Flipper and Stacker could cause a great deal of embarresment if reviewed in either 1981 or 1983. Both ways. Way under or way over. Who's so smart? This is what we see today with eyes that have been used to see in the dark before. Maybe this time we won't be altogether right but we're willing to stick what little neck out we have to at least make an estimate of a goal and possibility.

E. Immediate Problems to face and Actions to be taken.

Structure-

Multi-Sort, Inc. makes no bones about it's limitations.

E. Con't.

By the same token it has no apologies to make as to its principals recognition by the Intermodal industry and its access to discession making people and bodies.

However experience has taught it that as much as the best made ~~made~~ plans and projections are based on known facts it's the facts that you don't know that upset one. Also in the developement of a concept or project the chances are that somewhere others are also concerned with the same problem -and probabally it's someone like Caterpillar. And lastely it's going to take four times as much money as you planned and three times as long.

This is a major project representing many millions of dollars in potential sales. Strong competetion-the need for speed in developement many hundreds of hours in contiuhed engineering -volumne production capabilities -prdduct support in parts and inventory- lots of promotional dollars -all of the things that are inherent in a major firm committed to a project -research and developement etc. While all of these things are not totally needed today in this project they ~~sh~~ould be needed tomorrow if it's worth anything so why not plan for them today and recognize who should take this on. Somebody other the ourselves. Yet we can play a very important part and do not want to give up our birthright for pottage. What can we do to put our two strengths together and make a mess of money?

We orginally felt that our simple arrangement of Demo. cartridge supply by you and machine by us would give us time to get acquainted and plan in an orderly manner for the future. We now are concerned that the June demonstration and our verbal contacts will open a can of worms or opportunities and we ~~sa~~ure are not very well planned for either. The worms would be continued engineering and design and the opportunities would be a bunch of orders and we ~~an~~ our current form are not prepared for either. Thus onr desire for talk planning.

RECEIVED  
MAY 2 1979  
ATLAS IRON WORKS

Bill Savins  
ATLAS Iron

MEMO:

DATE: April 25, 1979

I arrived in Seattle and had been asked to try to run down a rumor quoted by the Port of Portland that there was an operation in the Port of Seattle, Washington that some part of this organization was working with container chassis in the manner of our design i.e. the Chassis Flipper.

I went first to the Port of Seattle and to the office of the manager of Port Terminals, Mr. Frank Clark. I met with Mr. Clark and briefly informed him as to the intent of my visit and also as to the development by Multi-Sort of the Chassis Flipper. I found Mr. Clark to be extremely receptive, I showed him pictures i.e. artist's renderings of the Chassis Flipper as well as the Trailer Multi-Stor concept and outlined briefly the objectives of these two designs.

Mr. Clark suggested that I should talk to Mr. Bill Brougher, Manager, Mechanical Equipment Engineering for the Port of Seattle. Further suggesting that I should talk to Mr. A. J. (Art) Edens, title, Operations and Facilities Manager of the Associated Transportation Center, 1041 S.W. Manning, Seattle, Washington 98134. He also suggested that I talk to Mr. William R. Bierly, Manager, Equipment Operations, Pacific Northwest American President Lines Ltd., located at Terminal 25, Seattle, Washington. I found that most of the Port of Seattle operations as well as the contractor operations and the Feeder Railroad operations are all located in a fairly well defined area i.e. this area comprises that harbor frontage along Alaskan Way, and the Harbor Island area. I first called on Mr. Art Edens of Associated Transportation Center and

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MEMO

DATE: April 25, 1979

found him to be a typical terminals manager. His title is Operation and Facilities Manager and he is an extremely knowledgeable, verbal, and tough individual who knows his business well and who recognizes its deficiencies as well as its plus factors.

I outlined the Chassis Flipper concept to Art Edens and found him extremely receptive. I also found as Mr. Edens was more than willing to show me that the operations of these yards are highly computerized and Art Edens feels that the need for the Chassis Flipper is immediate and pressing, since as he stated all available land suitable for this type of operation has been already locked up and the areas for expansion are eliminated. He mentioned two or three items that he felt might be advantageous in the application of this Chassis Flipper. One is side delivery and the other the need for rotation i.e. that of changing or using each chassis and each container as much as possible. He stated that they occasionally have chassis and containers that due to the lack of rotation will sit in his yard for as much as a year. He showed me, at some detail, his efforts to re-arrange and modify the yard and such advantages as he has gained. I found Edens to be a very knowledgeable, very alert, and very receptive individual and feel that he will be of real value to us in evaluating this Flipper during our demonstration. I invited him to see the demonstrations at Terminal 6 in Portland and told him that we would keep him advised as to our schedule on this demonstration. Edens told me that one of the first things that he would want is numbers i.e. price of the components, operation

NWMAR134430

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MEMO

DATE: April 25, 1979

cycles etc. Edens is a type and I feel this man can contribute a great deal to the knowledge that we need in order to properly present our concept. After leaving Edens' operation I went to the location of American President Lines Ltd., and located Mr. Bill R. Bierly. Bill Bierly is a classmate of that individual to whom we were introduced by Bill Savins of Atlas Ironworks in Portland. This young man also has a degree in transportation from the University of Oregon and is an extremely intelligent and intense individual. We discussed at some length the philosophy of the Chassis Flipper and storage racks. He was very very receptive. He talked to me about their particular operation wherein they bring into the operational area chassis's stacked four high. In other words, one on the ground as a trailer and three stacked as a load. His question "Can our L-40 with the Chassis Flipper recover that unit that is stacked four high." I called Joe Riley and we determined that yes he could recover that particular unit as well as the three below. Bierly also talked about some of the particular problems of operations such as the need for licensing the chassis. He says that the American President Lines, have somewhere in the neighborhood of six thousand of these chassis in the West Coast Operations and that any one time as many as 20-25% of these units might be in storage at their various West Coast facilities and unlicensed. In other words he is saying that occasionally this might present a problem of storage in our Multi-Sort Rack due to the inability of the inventory clerk or whatever to visually inspect the license and determine

NWMAR134431

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MEMO

DATE: April 25, 1979

if it is licensed or expired.

The very surprising thing I found in this particular call was Bierly's interest in the Trailer Multi-Stor unit. He admitted that he was really turned on by this unit which actually I showed him very briefly. His interest in this as well as the Chassis Flipper was that the Trailer Multi-Stor could as easily be used and as advantageously be used as a storage facility for trailers i.e. chassis with containers as an identity.

Following this call, I went back to the Port of Seattle General Offices on Northwest Alaskan Way and found Mr. Bill Brougher, Chief Engineer, Engineering Department and Manager of the Mechanical Equipment Engineering, Port of Seattle. I talked at some length with Mr. Brougher and he again I found to be a fairly young man, extremely intense, knowledgeable and recognizing the pressures of this industry, i.e. the container Piggy-Packer operations. Bill was extremely interested in both concepts as I briefly exposed him and asked that he be advised as to our schedule so that he might bring a party of people to Portland to view the demonstration of our unit at the Terminal 6, Operations of the Port of Portland.

I found the afternoon and forenoon calling on the above individuals to be extremely stimulating, challenging, and worrisome. I felt all of the foregoing because of the intense interest and reception of our concepts and philosophies.

NWMAR134432

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MEMO

DATE: April 25, 1979

I make the foregoing observations because I find all of these people to be extremely receptive to both of the conceptual designs as presented. I have found that while this is an extremely sophisticated, fast growing, expanding, industry, these people who are well-schooled and tempered by a very pressurized environment are receiving and remarking about our concepts as though we had invented the wheel.

From this fairly brief exposure in Seattle, which incidentally, is the second largest container Port of the United States and is currently ranked as the sixth largest container Port of the world, I find is an extremely stimulating experience. This is a fast moving, very fast growing and expanding industry, as Mr. Bill Bierly remarked to me when I asked him are there any books or technical manuals that might cover some of the material you have been quoting to me. He said, "there are no books written, this business is growing so fast that even Osha has no developed data."

I would suggest that we prepare for a considerable demand for both of the units that we are currently promoting.

Very truly yours,

LYNN PERROTT

NWMAR134433

MEMO

SUBJECT: BURLINGTON NORTHERN TCF TERMINAL,  
SOUTH SEATTLE, WASHINGTON

I met Mr. Spero M. Manson, Terminal Manager, Burlington Northern. Manson claims to be the one who bought the first Piggy-Packer from one Scott S. Corbett. Scott you know this man and undoubtedly you know him to be a very intense, and seemingly knowledgeable, capable person. I showed him the Chassis Flipper as well as the Trailer Storage Unit. He, like those others whom I have contacted in the past few days, seemed genuinely excited about this concept, about both concepts, and reacted as again most of them have with "where and when can I see it." We talked at some length about the need for both of these items due to the absolute limited room for expansion these companies have. Manson tells me that the Milwaukie Railroad Piggy-Packer Terminal in Seattle is "going bellyup" and that would mean that increased business in his yard. He admits to being almost desperate for more operating room. Wants us to write a letter that might be shown to his superiors, suggesting his visit to our demonstrations when ready. As a matter of interest and clearing up a subject that has bothered me with this Trailer Storage Unit, Multi-Trailer or whatever, his analysis of this unit is that it would be extremely valuable for storing empty trailers. He also resolved any concern I had as to the recovery of these trailers. I can discuss that at greater length.

Very truly yours,

LYNN PERROTT

NWMAR134434



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By the same token it has no ~~apologies~~ to make as to it's principals recognition by the Intermodal industry and it's access to discession making people and bodies.

However experience has taught it that as much as the best made ~~made~~ plans and projections are based on known facts it's the facts that you don't know that upset one. Also in the developement of a concept or project the chances are that somewhere others are also concerned with the same problem -and probally it's someone like Caterpillar. And lastely it's going to take four times as much money as you planned and three times as long.

This is a major project representing many millions of dollars in potential sales. Strong competetion-the need for speed in developement many hundreds of hours in contiuhed engineering -volumne production capabilities -prdduct support in parts and inventory- lots of promotional dollars -all of the things that are inherent in a major firm committed to a project -research and developement etc. While all of these things are not totally needed today in this project they ~~sh~~ould be needed tomorrow if it's worth anything so why not plan for them today and recognize who should take this on. Somebody other the ourselves. Yet we can play a very important part and do not want to give up our birthright for pottage. What can we do to put our two strenghts together and make a mess of money?

We orginally felt that our simple arrangement of Demo. cartridge supply by you and machine by us would give us time to get acquainted and plan in an orderly manner for the future. We now are concerned that the June demonstration and our verbal contacts will open a can of worms or opportunities and we ~~sa~~ure are not very well planned for either. The worms would be continued engineering and design and the opportunities would be a bunch of orders and we ~~an~~ our current form are not prepared for either. Thus our desire for talk planning.



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9:33 A.M.

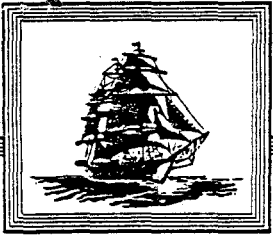
4/26

ART DILLINGER RECEIVED A  
COMMITTED TANK DELIVERY DATE  
OF MAY 18<sup>TH</sup> - VS. MAY 1<sup>ST</sup> AS  
ORIGINALLY THOUGHT ALSO IN  
ORDER TO SECURE OUR PERMITS  
HE SPENT DAYS GETTING THEM -  
DUE TO NEW D.E.A. REGS  
EXTRA ITEMS WILL HAVE TO  
BE INSTALLED WHICH WILL COST -  
APPROX. \$124.<sup>00</sup>/EXTRA PER TANK -  
ART WILL BE IN MAY 14<sup>TH</sup>  
TO SET UP PRELIMINARY INSTALLATION  
PLANS

TICK

4/26

OVERNIGHT SERVICE BETWEEN POINTS IN WASHINGTON & OREGON  
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FLAT BED AND LOW BOY HAULING



# NORTHWEST MARINE IRON WORKS

SHIP REPAIRING • GENERAL MACHINE WORK • ENGINEERING

MAIL ADDRESS: P. O. BOX 3109  
PORTLAND, OREGON 97208

2516 N. W. 29TH AVENUE  
TELEPHONE: 228-8222  
AREA CODE 503  
PORTLAND, OREGON

September 25, 1979

MEMO TO: Tom Sanvitale  
Braman Horn  
Tom Dove  
Andy Farrell  
Dennis Burmaster  
Dan Webb

FROM: Bob Thoman

We have signed an Industrial Gas Agreement with Airweld Inc. for a three year period running from September 20, 1979 to September 20, 1982 (copy attached).

This agreement involves Northwest Marine Iron Works, Electrical Construction Company, Fouch Electric, Automatic Welders and Rebuilders and Industrial Refrigeration.

Since these companies are currently purchasing the gases covered from Airweld, this does not change vendors, but it does enable us to benefit from group volume and reduces our costs on the listed gases substantially.

Please use this agreement copy as your guide.

cc: Dick Semke  
Jim Butler  
Leonard Prince  
Ray Sullivan  
Ray Potter  
Dudley Strain

NWMAR134441

## INDUSTRIAL GAS AGREEMENT

**AIRWELD, INC.** N.W. MARINE IRON WORKS, ELECTRICAL CONSTRUCTION CO., (hereinafter called the "Seller"), and **FOUCH ELECTRIC, AUTOMATIC WELDERS & REBUILDERS, and INDUSTRIAL REFRIGERATION** of PORTLAND, OREGON (hereinafter called the "Purchaser"), agree with each other as follows:

1. The Seller shall sell to the Purchaser and the Purchaser shall buy from the Seller, upon the terms and conditions herein set forth, from September 20 19 79, to September 20 19 82, and thereafter from year to year unless notice of cancellation is given by either party in writing twelve (12) months prior to the commencement of any such year, the Purchaser's requirements of industrial gases

2. The prices for products purchased hereunder delivered in Seller's cylinders of not less than 200 cubic foot capacity, shall be as follows:

Oxygen	#244 and #122	\$ 2.00	per 100 cubic feet—F.O.B.	Delivered*
Acetylene	#5 and #4	\$ 7.35	per 100 cubic feet—F.O.B.	Delivered*
Nitrogen	#112 and #224	\$ 4.00	per 100 cubic feet—F.O.B.	Delivered*
Argon and Argon Mixes		\$ 11.00	per 100 cubic feet—F.O.B.	Delivered*
Helium	#285	\$ 24.41	per 100 cubic feet—F.O.B.	Delivered*
Hydrogen		\$	per 100 cubic feet—F.O.B.	
Carbon Dioxide	50#	\$ .19	per pound —F.O.B.	Delivered*
Compressed Air	#224	\$ 7.34	per 100 cu.ft.—F.O.B.	Delivered*
Tri Mix	#296	\$ 24.41	per 100 cu.ft.—F.O.B.	Delivered*
Propane		\$ 21.13	per cylinder —F.O.B.	Delivered*

\*There will be a \$4.00 handling charge for each stop our truck makes. One charge only per location. A small cylinder differential will be charged when gases are requested in cylinders of less than 200 cubic feet capacity as follows:

3. Terms: Payment on demand without discount.

4. All oxygen furnished under this Agreement shall be 99.5% pure oxygen with a tolerance of not more than one-tenth of one per cent.

5. All argon furnished under this Agreement shall be not less than 99.995% pure argon and the maximum moisture content shall correspond to a dew point of minus 76 degrees F. at atmospheric pressure.

All \_\_\_\_\_ furnished under this Agreement shall have an oxygen content of less than \_\_\_\_\_% in the cylinder and the maximum moisture content.

The only liability of the Seller with respect to any gas failing to meet this specification shall be replacement of such gas without extra cost.

Cylinders used for the delivery of any gas hereunder (other than cylinders owned or leased by the Purchaser) are loaned by the Seller for that purpose only and shall be manufactured in accordance with the rules and regulations governing such cylinders. The Purchaser shall return said cylinders, complete with all fittings and caps, in good condition and repair to the point from which they were shipped by the Seller, return charges to be prepaid by the Purchaser, within thirty (30) days from date of shipment to the Purchaser. The Seller shall maintain quantity records of cylinder deliveries and cylinder returns hereunder and shall charge the Purchaser rental, at the Seller's standard published rate on the number of cylinders outstanding at the end of each month. The Purchaser shall pay this rental charge to the Seller at the end of each month. On demand the Purchaser shall pay to the Seller the fair value of cylinders, including fittings and caps, lost or damaged before return to the Seller. The Seller's cylinders shall not be removed from the Purchaser's premises except in the Purchaser's possession for its own operations for any reason other than direct return to the Seller.

Service and deliveries by the Seller are subject to and contingent upon floods, strikes or other labor disturbances, fires, accidents, wars, delays of carriers, inability to obtain raw materials, failures of normal sources of supply, restraints of government, or any other similar or dissimilar cause beyond the Seller's reasonable control.

The Purchaser shall pay the amount of any tax upon or payable or collectible by the Seller with respect to or which is ascertained by reference to or measured by any sales, deliveries or orders hereunder by virtue of any present or future Federal, State, Municipal or other law applicable thereto.

If the Seller's costs are increased by reason of war, or other circumstances beyond its control, the Seller may increase the prices set forth above by giving fifteen (15) days' written notice to the Purchaser. If within ten (10) days after the giving of such notice the Purchaser furnishes the Seller with evidence that the Purchaser can buy the products specified in such notice from a responsible seller at lower prices, the Seller may either meet such lower prices or reinstate the price in effect at the time of said notice of revision whichever is higher or cancel the agreement.

This Agreement shall not be binding until it is accepted and signed by a representative of the Seller thereunto duly authorized.

**AIRWELD, INC.**

N.W. MARINE IRON WORKS

By Stanton Richardson  
For the Seller

By [Signature]  
For the Purchaser



NORTHWEST MARINE IRONWORKS  
P.O. Box 3109  
Portland, OR. 97208  
FOR FURTHER INFORMATION:  
(503) 234-9629  
Contact: John Fencsak  
John Ashbaugh

LARGE PORTLAND METAL FABRICATION PLANT PURCHASED  
BY NORTHWEST MARINE IRON WORKS

All assets of the Portland Division of Fentron Highway Products, Inc., a Seattle-based aluminum and steel fabricator, have just been purchased by Northwest Marine Iron Works, headquartered in Portland (OR).

According to Dick Semke, general manager of Northwest Marine's Shop Division, the acquisition includes a plant occupying Bays 3, 4 and 5 on Swan Island with 50 employees, and an extensive amount of metal fabrication equipment.

The Fentron plant, which posted approximately \$4 million in sales last year, will be named the Fabrication Division of Northwest Marine, Semke said.

"This acquisition expands our machine shop capabilities and rounds out our operations," he said.

The specialized equipment acquired by Northwest Marine includes the largest "press brake" (a heavy duty metal forming device) on the West Coast, capable of bending and forming steel plate up to 6½-inches thick. Also purchased was a very large horizontal boring mill.

Semke said the company plans to acquire a large lathe for the Division very shortly. The lathe will be used for tailshaft repair and other marine related work.

The acquisition was made for an undisclosed amount of cash.

- MORE -

In addition to its fabrication and heavy duty machining capabilities, Northwest Marine Iron Works, founded in 1943, operates one of the largest ship repair facilities in Portland and manufactures sawmill equipment. Subsidiary companies are involved in electrical contracting, steel fabrication and erection, distribution of capital equipment, specialty weld repair and industrial refrigeration.

Fentron Highway Products, Inc., which operates throughout the Pacific Northwest, will continue its fabricating and extrusion operation at its Seattle plant.

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9/5/79

NWMAR134444

## OCCUPATIONAL HEALTH REGULATIONS

22-018 (A) (c) SPRAY FINISHING OPERATIONS ..... 1 - 12

22-056 SPRAY FINISHING USING FLAMMABLE AND  
COMBUSTIBLE MATERIALS ..... 13 - 16

22-018 (A) (c) SPRAY FINISHING OPERATIONS

(1) **Scope.** Spray booths or spray rooms are to be used to enclose or confine all spray finishing operations covered by paragraph (c) (3). This paragraph does not apply to the spraying of the exteriors of buildings, fixed tanks, or similar structures, nor to small portable spraying apparatus not used repeatedly in the same location.

(2) Definitions applicable to this paragraph.

(i) **Spray-finishing operations.** Spray-finishing operations are employment of methods wherein organic or inorganic materials are utilized in dispersed form for deposit on surfaces to be coated, treated, or cleaned. Such methods of deposit may involve either automatic, manual, or electrostatic deposition but do not include metal spraying or metallizing, dipping, flow coating, roller coating, tumbling, centrifuging, or spray washing and degreasing as conducted in self-contained washing and degreasing machines or systems.

(ii) **Aerated solid powders.** Aerated powders shall mean any powdered material used as a coating material which shall be fluidized within a container by passing air uniformly from below. It is common practice to fluidize such materials to form a fluidized powder bed and then dip the part to be coated into the bed in a manner similar to that used in liquid dipping. Such beds are also used as sources for powder spray operations.

(iii) **Spraying area.** Any area in which dangerous quantities of flammable vapors or mists, or combustible residues, dusts, or deposits are present due to the operation of spraying processes.

(iv) **Spray booth.** A power-ventilated structure provided to enclose or accommodate a spraying operation to confine and limit the escape of spray, vapor, and residue, and to safely conduct or direct them to an exhaust system.

(v) **Spray room.** A spray room is a room in which spray-finishing operations not conducted in a spray booth are performed separately from other areas.

(vi) **Minimum maintained velocity.** Minimum maintained velocity is the velocity of air movement which must be maintained in order to meet minimum specified requirements for health and safety.

(vii) **Waterwash spray booth.** A spray booth equipped with a water washing system designed to minimize dusts or residues entering exhaust ducts and to permit the recovery of overspray finishing material.

(viii) **Dry spray booth.** A spray booth not equipped with a water washing system as described in subparagraph (vii) of this graph. A dry spray booth may be equipped with

(a) Distribution or baffle plates to promote an even flow of air through the booth or cause the deposit of overspray before it enters the exhaust duct; or

(b) Overspray dry filters to minimize dusts; or

(c) Overspray dry filters to minimize dusts or residues entering exhaust ducts; or

(d) Overspray dry filter rolls designed to minimize dusts or residues entering exhaust ducts; or

(e) Where dry powders are being sprayed, with powder collection systems so arranged in the exhaust to capture oversprayed material.

(ix) **Fluidized bed.** A container holding powder coating material which is aerated from below so as to form an air-supported expanded cloud of such material through which the preheated object to be coated is immersed and transported.

(x) **Electrostatic fluidized bed.** A container holding powder coating material which is aerated from below so as to form an air-supported expanded cloud of such material which is electrically charged with a charge opposite to the charge of the object to be coated; such object is transported through the container immediately above the charged and aerated materials in order to be coated.

para-

(xi) **Approved.** Shall mean approved and listed by the following nationally recognized testing laboratories: Underwriters' Laboratories, Inc.; Factory Mutual Engineering Corp.

(xii) **Listed.** See "approved" in 22-018(A) (c) (2) (xi).

(3) Location and application

(i) Spray-finishing shall be conducted in a spray room or booth provided with local exhaust ventilation except:

(a) When spraying is infrequent and of short duration, or

(b) When spraying is by a single "air brush," or

(c) The object to be sprayed is of such weight or proportion as to render it impracticable to move it into a spray area, or

(d) When spray painting is conducted out of doors.

(ii) Spray-finishing outside of a booth or room, as permitted by 22-018(A)(c)(3)(i)(c) above, shall be done only after the following provisions have been met:

(a) All light switches, fans, receptacles, overhead lights and all other sources of ignition within twenty feet of the spraying and overspray area shall be rendered inoperative or shall consist of Class I, Group D explosion proof types as specified in the National Electric Code, NFPA 70-1971, ANSI C1-1971.

(b) All building construction including floors, walls, ceilings, beams, etc. within twenty feet of the spraying and overspray area shall consist of or be protected by non-combustible materials.

(c) All areas within twenty feet of the spraying and overspray area shall be protected by automatic sprinklers. Where automatic sprinklers are not available, other automatic extinguishing equipment shall be provided.

(d) Aisles leading to exits outside the spray-finishing area shall be maintained clear at all times.

(e) Employees not engaged in the spray-finishing operation shall not be permitted within twenty feet of the spraying and overspray area.

(f) Employees engaged in spray-finishing operations shall be provided with and wear respiratory protection unless exhaust ventilation has been provided and shown to reduce employee exposure to any material in the finish or its solvent to below the limits set in 22-017(A). Respirators and their maintenance shall conform to 22-069.

(g) No combustible residues, paints, masking materials or other combustible material, except as specified in 22-018(A)(c)(2)(ii)(b) above, shall be stored or allowed to accumulate in the spraying and overspray area. The spraying and overspray area shall be given daily housekeeping and maintenance while in use and it shall be left free of any accumulations between uses.

(h) Whenever possible spray-finishing shall be conducted with maximum effective general or local exhaust ventilation and/or when the least number of employees are on the job. Such conditions may result when:

(1) Ventilation systems in other areas of the plant are shut down to maximize the efficiency of the spraying and overspray area exhaust system, or

(2) Doors may be opened to provide general ventilation, or

(3) At the end of a work shift, or during the work shift which has the least number of employees.

(4) Design and construction of spray booths.

(i) Construction. Spray booths shall be substantially constructed of steel not thinner than No. 18 U.S. gauge, securely and rigidly supported, or of concrete or masonry, except that aluminum or other substantial non-combustible material may be used for intermittent or low volume spraying. Spray booths shall be designed to sweep air currents toward the exhaust outlet.

(a) In no case shall combustible material be used in the construction of a spray booth and supply or exhaust duct connected to it.

(b) Unobstructed walkways shall not be less than 6½ feet high and shall be maintained clear of obstruction from any work location in the booth to a booth exit or open booth front. In booths where the open front is the only exit, such exits shall be not less than 3 feet wide. In booths having multiple exits, such exits shall not be less than 2 feet wide, provided that the maximum distance from the work location to the exit is 25 feet or less. Where booth exits are provided with doors, such doors shall open outward from the booth.

(c) Baffles, distribution plates, and dry-type overspray collectors shall conform to the requirements of subparagraph 4(iv) and (v) of this paragraph.

(See sections 304 and 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969.)

(1) Overspray filters shall be installed and maintained in accordance with the requirements of subparagraph 4(v)

of this paragraph, (see

section 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33-1969), and shall only be in a location easily accessible for inspection, cleaning, or replacement.

(2) Where effective means, independent of the overspray filters, are installed which will result in design air distribution across the booth cross section, it is permissible to operate the booth without the filters in place.

(d)

(1) For wet or water-wash spray booths, the water-chamber enclosure, within which intimate contact of contaminated air and cleaning water or other cleaning medium is maintained, if made of steel, shall be 18 gage or heavier and adequately protected against corrosion.

(2) Chambers may include scrubber spray nozzles, headers, troughs, or other devices. Chambers shall be provided with adequate means for creating and maintaining scrubbing action for removal of particulate matter from the exhaust air stream.

(e) Collecting tanks shall be of welded steel construction or other suitable non-combustible material. If pits are used as collecting tanks, they shall be concrete, masonry, or other material having similar properties.

(1) Tanks shall be provided with weirs, skimmer plates, or screens to prevent sludge and floating paint from entering the pump suction box. Means for automatically maintaining the proper water level shall also be provided. Fresh water inlets shall not be submerged. They shall terminate at least one pipe diameter above the safety overflow level of the tank.

(2) Tanks shall be so constructed as to discourage accumulation of hazardous deposits.

(f) Pump manifolds, risers, and headers shall be adequately sized to insure sufficient water flow to provide efficient operation of the water chamber.

(ii) Interiors. The interior surfaces of spray booths shall be smooth and continuous without edges and otherwise designed to prevent pocketing of residues and facilitate cleaning and washing without injury.

iii) Floors. The floor surface of a spray booth and operator's working area, if combustible, shall be covered with noncombustible material of such character as to facilitate the safe cleaning and removal of residues.

(iv) Distribution or baffle plates. Distribution or baffle plates, if installed to promote an even flow of air through the booth or cause the deposit of overspray before it enters the exhaust duct, shall be of noncombustible material and readily removable or accessible on both sides for cleaning. Such plates shall not be located in exhaust ducts.

(v) Dry type overspray collectors—(exhaust air filters). In conventional dry type spray booths, overspray dry filters or filter rolls, if installed, shall conform to the following:

(a) The spraying operations except electrostatic spraying operations shall be so designed, installed and maintained that the average air velocity over the open face of the booth (or booth cross section during spraying operations) shall be not

less than 100 linear feet per minute. Electrostatic spraying operations may be conducted with an air velocity over the open face of the booth of not less than 60 linear feet per minute, or more, depending on the volume of the finishing material being applied and its flammability and explosion characteristics. Visible gauges or audible alarm or pressure activated devices shall be installed to indicate or insure that the required air velocity is maintained. Dry spray booths equipped with a filter roll which is automatically advanced when the air velocity is reduced to that specified in this subdivision should be arranged to cause shutdown of spraying operations if the filter roll fails to advance automatically. Maintenance procedures should be established to assure replacing filter pads before excessive restriction to airflow occurs. Filter pads should be inspected after each period of use and clogged filter pads discarded and replaced. Filter rolls shall be inspected to insure proper replacement of filter media.

(b) All discarded filter pads and filter rolls shall be immediately removed to a safe, well-detached location or placed in a water-filled metal container and disposed of at the close of the day's operation unless maintained completely in water.

(c) The location of filters in a spray booth shall be so as to not reduce the effective booth enclosure of the articles being sprayed.

(d) Space within the spray booth on the downstream and upstream sides of filters shall be protected with approved automatic sprinklers.

(e) Filters or filter rolls shall not be used when applying a spray material known to be highly susceptible to spontaneous heating and ignition.

(f) Clean filters or filter rolls shall be non-combustible or of a type having a combustibility not in excess of class 2 filters as listed by Underwriters' Laboratories, Inc. Filters and filter rolls shall not be alternately used for different types of coating materials, where the combination of materials may be conducive to spontaneous ignition.

(vi) Frontal area. Each spray booth having a frontal area larger than 9 square feet shall have a metal deflector or curtain not less than 2½ inches deep installed at the upper outer edge of the booth over the opening.

(vii) Conveyors. Where conveyors are arranged to carry work into or out of spray booths, the openings therefor shall be as small as practical.

(viii) Separation of operations. Each spray booth shall be separated from other operations by not less than 3 feet, or by a greater distance, or by such partition or wall as to reduce the danger from juxtaposition of hazardous operations. See also paragraph (c)(1) of this section.

(ix) Cleaning. Spray booths shall be so installed that all portions are readily accessible for cleaning. A clear space of not less than 3 feet on all sides shall be kept free from storage or combustible construction.

(x) Illumination. When spraying areas are illuminated through glass panels or other transparent materials, only fixed lighting units shall be used as a source of illumination. Panels shall effectively isolate the spraying area from the area in which the lighting unit is located, and shall be of a noncombustible material of such a nature or so protected that breakage will be unlikely. Panels shall be so arranged that normal accumulations of residue on the exposed surface of the panel will not be raised to a dangerous temperature by radiation or conduction from the source of illumination.

#### (5) Electrical and other sources of ignition.

(i) Conformance. All electrical equipment, open flames and other sources of ignition shall conform to the requirements of this paragraph, except as follows:

(a) Electrostatic apparatus shall conform to the requirements of paragraph (6) and (7) of this section;

(b) Drying, curing, and fusion apparatus shall conform to the requirements of paragraph (8) of this section;

(c) Automobile undercoating spray operations in garages shall conform to the requirements of paragraph (9) of this section.

(d) Powder coating equipment shall conform to the requirements of paragraph (10) of this section.

(ii) Minimum separation. There shall be no open flame or spark producing equipment in any spraying area nor within 20 feet thereof, unless separated by a partition.

(iii) Hot surfaces. Space-heating appliances, steampipes, or hot surfaces shall not be located in a spraying area where deposits of combustible residues may readily accumulate.

(iv) Wiring conformance. Electrical wiring and equipment shall conform to the provisions of this paragraph and shall otherwise be in accordance with the National Electrical Code, NFPA 70-1971, ANSI C1-1971.

(v) Combustible residues, areas. Unless specifically approved for locations containing both deposits of readily ignitable residue and explosive vapors, there shall be no electrical equipment in any spraying area, whereon deposits of combustible residues may readily accumulate, except wiring in rigid conduit or in boxes or fittings containing no taps, splices, or terminal connections.

(vi) Wiring type approved. Electrical wiring and equipment not subject to deposits of combustible residues but located in a spraying area as herein defined shall be of explosion-proof type approved for Class I, group D locations and shall otherwise conform to the provisions of the National Electrical Code, NFPA 70-1971, ANSI C1-1971 for Class I, Division I, Hazardous Locations. Electrical wiring, motors, and other equipment outside of but within twenty (20) feet of any spraying area, and not separated therefrom by partitions, shall not produce sparks under normal operating conditions and shall otherwise conform to the provisions of the National Electrical Code, NFPA 70-1971, for Class I, Division 2, Hazardous Locations.

(vii) Lamps. Electric lamps outside of, but within twenty (20) feet of any spraying area, and not separated therefrom by a partition, shall be totally enclosed to prevent the falling of hot particles and shall be protected from mechanical injury by suitable guards or by location.

(viii) Portable lamps. Portable electric lamps shall not be used in any spraying area during spraying operations. Portable electric lamps, if used during cleaning or repairing operations, shall be of the type approved for hazardous Class I locations.

(ix) Grounding.

(a) All metal parts of spray booths, exhaust ducts, and piping systems conveying flammable or combustible liquids or aerated solids shall be properly electrically grounded in an effective and permanent manner.

(b) "Airless" high-fluid pressure spray guns and any conductive object being sprayed should be properly electrically grounded.

(6) Fixed electrostatic apparatus.

(i) Conformance. Where installation and use of electrostatic spraying equipment is used, such installation and use shall conform to all other paragraphs of this section, and shall also conform to the requirements of this paragraph.

(ii) Type approval. Electrostatic apparatus and devices used in connection with coating operations shall be of approved types.

(iii) Location. Transformers, power packs, control apparatus, and all other electrical portions of the equipment, with the exception of high-voltage grids, electrodes, and electrostatic atomizing heads and their connections, shall be located outside of the spraying area, or shall otherwise conform to the requirements of paragraph (5) of this section.

(iv) Support. Electrodes and electrostatic atomizing heads shall be adequately supported in permanent locations and shall be effectively insulated from the ground. Electrodes and electrostatic atomizing heads which are permanently attached to their bases, supports, or reciprocators, shall be deemed to comply with this section. Insulators shall be nonporous and noncombustible.

(v) Insulators, grounding. High-voltage leads to electrodes shall be properly insulated and protected from mechanical injury or exposure to destructive chemicals. Electrostatic atomizing heads shall be effectively and permanently supported on suitable insulators and shall be effectively guarded against accidental contact or grounding. An automatic means shall be provided for grounding the electrode system when it is electrically deenergized for any reason. All insulators shall be kept clean and dry.



(vi) Safe distance. A safe distance shall be maintained between goods being painted and electrodes or electrostatic atomizing heads or conductors of at least twice the sparking distance. A suitable sign indicating this safe distance shall be conspicuously posted near the assembly.

(vii) Conveyors required. Goods being painted using this process are to be supported on conveyors. The conveyors shall be so arranged as to maintain safe distances between the goods and the electrodes or electrostatic atomizing heads at all times. Any irregularly shaped or other goods subject to possible swinging or movement shall be rigidly supported to prevent such swinging or movement which would reduce the clearance to less than that specified in subparagraph (vi) of this paragraph.

(viii) Prohibition. This process is not acceptable where goods being coated are manipulated by hand. When finishing materials are applied by electrostatic equipment which is manipulated by hand, see paragraph of this section for applicable requirements.

(ix) Fail-safe controls. Electrostatic apparatus shall be equipped with automatic controls which will operate without time delay to disconnect the power supply to the high voltage transformer and to signal the operator under any of the following conditions:

- (a) Stoppage of ventilating fans or failure of ventilating equipment from any cause.
- (b) Stoppage of the conveyor carrying goods through the high voltage field.
- (c) Occurrence of a ground or of an imminent ground at any point on the high voltage system.

(d) Reduction of clearance below that specified in subparagraph (vi) of this paragraph.

(x) Guarding. Adequate booths, fencing, railings, or guards shall be so placed about the equipment that they, either by their location or character or both, assure that a safe isolation of the process is maintained from plant storage or personnel. Such railings, fencing, and guards shall be of conducting material, adequately grounded.

(xi) Ventilation. Where electrostatic atomization is used the spraying area shall be so ventilated as to insure safe conditions from a fire and health standpoint.

(xii) Fire protection. All areas used for spraying, including the interior of the booth, shall be protected by automatic sprinklers where this protection is available. Where this protection is not available, other approved automatic extinguishing equipment shall be provided.

#### (7) Electrostatic hand spraying equipment.

(1) Application. This paragraph shall apply to any equipment using electrostatically charged elements for the atomization and/or, precipitation of materials for coatings on articles, or for other similar purposes in which the atomizing device is hand held and manipulated during the spraying operation.

(ii) Conformance. Electrostatic hand spraying equipment shall conform with the other provisions of this section.

(iii) Equipment approval and specifications. Electrostatic hand spray apparatus and devices used in connection with coating operations shall be of approved types. The equipment should be so designed that the maximum surface temperature of the equipment in the spraying area shall not exceed 150° F. under any condition. The high voltage circuits shall be designed so as to not produce a spark of sufficient intensity to ignite any vapor-air mixtures nor result in appreciable shock hazard upon coming in contact with a grounded object under all normal operating conditions. The electrostatically charged exposed elements of the handgun shall be capable of being energized only by a switch which also controls the coating material supply.

(iv) Electrical support equipment. Transformers, powerpacks, control apparatus, and all other electrical portions of the equipment, with the exceptions of the handgun itself and its connections to the power supply shall be located outside of the spraying area or shall otherwise conform to the requirements of paragraph (5) of this section.

(v) Spray gun ground. The handle of the spraying gun shall be electrically connected to ground by a metallic connection and to be so constructed that the operator in normal operating position is in intimate electrical contact with the grounded handle.

(vi) Grounding—general. All electrically conductive objects in the spraying area shall be adequately grounded. This requirement shall apply to paint containers, wash cans, and any other objects or devices in the area. The equipment shall carry a prominent permanently installed warning regarding the necessity for this grounding feature.

(vii) Maintenance of grounds. Objects being painted or coated shall be maintained in metallic contact with the conveyor or other grounded support. Hooks shall be regularly cleaned to insure this contact and areas of contact shall be sharp points or knife edges where possible. Points of support of the object shall be concealed from random spray where feasible and where the objects being sprayed are supported from a conveyor, the point of attachment to the conveyor shall be so located as to not collect spray material during normal operation.

(viii) Interlocks. The electrical equipment shall be so interlocked with the ventilation of the spraying area that the equipment cannot be operated unless the ventilation fans are in operation.

(ix) Ventilation. The spraying operation shall take place within a spray area which is adequately ventilated to remove solvent vapors released from the operation.

### (8) Drying, curing, or fusion apparatus.

(1) Conformance. Drying, curing, or fusion apparatus in connection with spray application of flammable and combustible finishes shall conform to the Standard for Ovens and Furnaces, NFPA 86A-1969, where applicable and shall also conform with the following requirements of this subparagraph.

(ii) Alternate use prohibited. Spray booths, rooms, or other enclosures used for spraying operations shall not alternately be used for the purpose of drying by any arrangement which will cause a material increase in the surface temperature of the spray booth, room, or enclosure.

(iii) Adjacent system interlocked. Except as specifically provided in subparagraph (4) of this paragraph, drying, curing, or fusion units utilizing a heating system having open flames or which may produce sparks shall not be installed in a spraying area, but may be installed adjacent thereto when equipped with an interlocked ventilating system arranged to:

(a) Thoroughly ventilate the drying space before the heating system can be started;

(b) Maintain a safe atmosphere at any source of ignition;

(c) Automatically shut down the heating system in the event of failure of the ventilating system.

(iv) Alternate use permitted. Automobile refinishing spray booths or enclosures, otherwise installed and maintained in full conformity with this section, may alternately be used for drying with portable electrical infrared drying apparatus when conforming with the following:

(a) Interior (especially floors) of spray enclosures shall be kept free of overspray deposits.

(b) During spray operations, the drying apparatus and electrical connections and wiring thereto shall not be located within spray enclosure nor in any other location where spray residues may be deposited thereon.

(c) The spraying apparatus, the drying apparatus, and the ventilating system of the spray enclosure shall be equipped with suitable interlocks so arranged that:

(1) The spraying apparatus cannot be operated while the drying apparatus is inside the spray enclosure.

(2) The spray enclosure will be purged of spray vapors for a period of not less than 3 minutes before the drying apparatus can be energized.

(3) The ventilating system will maintain a safe atmosphere within the enclosure during the drying process and the drying apparatus will automatically shut off in the event of failure of the ventilating system.

(d) All electrical wiring and equipment of the drying apparatus shall conform with the applicable sections of the National Electrical Code, NFPA 70-197 ANSI C1-1971. Only equipment of a type approved for Class I, Division 2 hazardous locations shall be located within 18 inches of floor level. All metallic parts of the drying apparatus shall be properly electrically bonded and grounded.

(e) The drying apparatus shall contain a prominently located, permanently attached warning sign indicating that ventilation should be maintained during the drying period and that spraying should not be conducted in the vicinity that spray will deposit on apparatus.

22-018 (A) (c)  
(9) Automobile undercoating in garages.

Automobile undercoating spray operations in garages, conducted in areas having adequate natural or mechanical ventilation, are exempt from the requirements pertaining to spray finishing operations, when using undercoating materials not more hazardous than kerosene (as listed by Underwriters' Laboratories in respect to fire hazard rating 30-40) or undercoating materials using only solvents listed as having a flash point in excess of 100° F. Undercoating spray operations not conforming to these provisions are subject to all requirements of this section pertaining to spray finishing operations.

(10) Powder coating.

(1) Electrical and other sources of ignition. Electrical equipment and other sources of ignition shall conform to the requirements of paragraph (5) (1) (a) - (d), (viii) and (ix) (a) of this section and the National Electrical Code, NFPA 70-1971, ANSI C1-1971.

(11) Design and construction of spray rooms.

(i) All spray rooms, including floors, shall be designed, constructed and maintained to meet the minimum State of Oregon Uniform Building Code fire resistive classification of at least one hour. Materials of construction may include masonry, concrete or other noncombustible material.

(ii) Spray rooms shall have noncombustible fire doors and shutters.

(iii) Spray rooms shall be adequately ventilated so that the atmosphere in the breathing zone of the operator shall be maintained in accordance with the requirements of subparagraph (13) (1) of this paragraph, and provide a minimum of 30 air changes per hour.

(iv) Spray rooms used for production spray-finishing operations shall conform to the requirements for spray booths.

(12) Ventilation.

(i) Ventilation shall be provided in accordance with provisions of chapter 5 of the Standard for Spray Finishing Using Flammable or Combustible Materials, NFPA No. 33-1969, and in accordance with the following:

(a) Where a fan plenum is used to equalize or control the distribution of exhaust air movement through the booth, it shall be of sufficient strength or rigidity to withstand the differential air pressure or other superficially imposed loads for which the equipment is designed and also to facilitate cleaning. Construction specifications shall be at least equivalent to those of subdivision (iii) of this subparagraph.

(b) All fan ratings shall be in accordance with Air Moving and Conditioning Association Standard Test Code for Testing Air Moving Devices, Bulletin 210, April 1962.

(ii) Inlet or supply ductwork used to transport makeup air to spray booths or surrounding areas shall be constructed of noncombustible materials.

(a) If negative pressure exists within inlet ductwork, all seams and joints shall be sealed if there is a possibility of infiltration of harmful quantities of noxious gases, fumes, or mists from areas through which ductwork passes.

(b) Inlet ductwork shall be sized in accordance with volume flow requirements and provide design air requirements at the spray booth.

(c) Inlet ductwork shall be adequately supported throughout its length to sustain at least its own weight plus any negative pressure which is exerted upon it under normal operating conditions.

(iii) Ducts shall be so constructed as to provide structural strength and stability at least equivalent to sheet steel of not less than the following thickness:

DIAMETER OR GREATER DIMENSION

	(U.S. gauge)
Up to 8 inches inclusive .....	No. 24
Over 8 inches to 18 inches inclusive ....	No. 22
Over 18 inches to 30 inches inclusive ...	No. 20
Over 30 inches .....	No. 18

(a) Exhaust ductwork shall be adequately supported throughout its length to sustain its weight plus any normal accumulation in interior during normal operating conditions and any negative pressure exerted upon it.

(b) Exhaust ductwork shall be sized in accordance with good design practice which shall include consideration of fan capacity, length of duct, number of turns and elbows, variation in size, volume, and character of materials being exhausted. See American National Standard Z9.2-1960 for further details and explanation concerning elements of design.

(c) Longitudinal joints in sheet steel ductwork shall be either lock-seamed, riveted, or welded. For other than steel construction, equivalent securing of joints shall be provided.

(d) Circumferential joints in ductwork shall be substantially fastened together and lapped in the direction of airflow. At least every fourth joint shall be provided with connecting flanges, bolted together, or of equivalent fastening security.

(e) Inspection or clean-out doors shall be provided for every 9 to 12 feet of running length for ducts up to 12 inches in diameter, but the distance between clean-out doors may be greater for larger pipes. (See 8.3.21 of American National Standard Z9.1-1951.) A clean-out door or doors shall be provided for servicing the fan, and where necessary, a drain shall be provided.

(f) Where ductwork passes through a combustible roof or wall, the roof or wall shall be protected at the point of penetration by open space or fire-resistive material between the duct and the roof or wall. When ducts pass through firewalls, they shall be provided with automatic fire dampers on both sides of the wall, except that three-eighth-inch steel plates may be used in lieu of automatic fire dampers for ducts not exceeding 18 inches in diameter.

(g) Ductwork used for ventilating any process covered in this standard shall not be connected to ducts ventilating any other process or any chimney or flue used for conveying any products of combustion.

### (13) Velocity and air flow requirements.

(i) Except where a spray booth has an adequate air replacement system, the velocity of air into all openings of a spray booth shall be not less than that specified in Table G-13 for the operating conditions specified. An adequate air replacement system is one which introduces replacement air upstream or above the object being sprayed and is so designed that the velocity of air in the booth cross section is not less than that specified in Table G-13 when measured upstream or above the object being sprayed.

(ii) In addition to the requirements in subdivision (i) of this subparagraph the total air volume exhausted through a spray booth shall be such as to dilute solvent vapor to at least 25 percent of the lower explosive limit of the solvent being sprayed. An example of the method of calculating this volume is given below.

Example: To determine the lower explosive limits of the most common solvents used in spray finishing, see Table G-14 Column 1 gives the number of cubic feet of vapor per gallon of solvent and column 2 gives the lower explosive limit (LEL) in percentage by volume of air. Note that the quantity of solvent will be diminished by the quantity of solids and nonflammables contained in the finish.

To determine the volume of air in cubic feet necessary to dilute the vapor from 1 gallon of solvent to 25 percent of the lower explosive limit, apply the following formula:

$$\text{Dilution volume required per gallon of solvent} = \frac{4 (100 - \text{LEL}) (\text{cubic feet of vapor per gallon})}{\text{LEL}}$$

Using toluene as the solvent.

- (1) LEL of toluene from Table G-14 column 2, is 1.4 percent.
- (2) Cubic feet of vapor per gallon from Table G-14 column 1, is 30.4 cubic feet per gallon.
- (3) Dilution volume required =

$$\frac{4 (100 - 1.4) 30.4}{1.4} = 8,564 \text{ cubic feet.}$$

(4) To convert to cubic feet per minute of required ventilation, multiply the dilution volume required per gallon of solvent by the number of gallons of solvent evaporated per minute.

### (iii)

(a) When an operator must position himself in a booth downstream of the object being sprayed, an air supplied respirator or other type of respirator approved by NIOSH for the material being sprayed should be used by the operator.

Note: NIOSH has approved for a limited time, the use of certain respiratory protective equipment which in the past was approved by the Bureau of Mines. The length of the approval is dependent upon the type of respiratory protective equipment involved. Questions about the use of such equipment should be referred to the Occupational Health Section.

(b) Where downdraft booths are provided with doors, such doors shall be closed when spray painting.

TABLE G-13—MINIMUM MAINTAINED VELOCITIES INTO SPRAY BOOTHS

Operating conditions for objects completely inside booth	Crossdraft, f.p.m.	Airflow velocities, f.p.m.	
		Design	Range
Electrostatic and automatic airless operation contained in booth without operator.	Negligible.....	50 large booth.....	50- 75
		100 small booth.....	75-125
Air-operated guns, manual or automatic.....	Up to 50.....	100 large booth.....	75-125
		150 small booth.....	125-175
Air-operated guns, manual or automatic.....	Up to 100.....	150 large booth.....	125-175
		200 small booth.....	150-250

## NOTES:

(1) Attention is invited to the fact that the effectiveness of the spray booth is dependent upon the relationship of the depth of the booth to its height and width.

(2) Crossdrafts can be eliminated through proper design and such design should be sought. Crossdrafts in excess of 100 fpm (feet per minute) should not be permitted.

(3) Excessive air pressures result in loss of both efficiency and material waste in addition to creating a backlash that may carry overspray and fumes into adjacent work areas.

(4) Booths should be designed with velocities shown in the column headed "Design." However, booths operating with velocities shown in the column headed "Range" are in compliance with this standard.

(5) A small booth has a face area of less than 6 square feet.

(6) A large booth has a face area of 6 square feet or larger.

## (14) Make-up air.

## (III)

(a) Where the air supply to a spray booth or room is filtered, the fan static pressure shall be calculated on the assumption that the filters are dirty to the extent that they require cleaning or replacement.

(b) The rating of filters shall be governed by test data supplied by the manufacturer of the filter. A pressure gage shall be installed to show the pressure drop across the filters. This gage shall be marked to show the pressure drop at which the filters require cleaning or replacement. Filters shall be replaced or cleaned whenever the pressure drop across them becomes excessive or whenever the air flow through the face of the booth falls below that specified in Table G-13.

(i) Clean fresh air, free of contamination from adjacent industrial exhaust systems, chimneys, stacks, or vents, shall be supplied to a spray booth or room in quantities equal to the volume of air exhausted through the spray booth.

(ii) Where a spray booth or room receives make-up air through self-closing doors, dampers, or louvers, they shall be fully open at all times when the booth or room is in use for spraying. The velocity of air through such doors, dampers, or louvers shall not exceed 200 feet per minute. If the fan characteristics are such that the required air flow through the booth will be provided, higher velocities through the doors, dampers, or louvers may be used.

TABLE G-14—LOWER EXPLOSIVE LIMIT OF SOME COMMONLY USED SOLVENTS

Solvent	Cubic feet of vapor per gallon of liquid at 70° F	Lower explosive limit in percent by volume of air at 70° F
	Column 1	Column 2
Acetone.....	44.0	2.6
Amyl Acetate (iso).....	21.6	1.0
Amyl Alcohol (n).....	29.6	1.2
Amyl Alcohol (iso).....	29.6	1.2
Benzene.....	36.8	1.4
Butyl Acetate (n).....	24.8	1.7
Butyl Alcohol (n).....	35.2	1.4
Butyl Cellosolve.....	24.8	1.1
Cellosolve.....	33.6	1.8
Cellosolve Acetate.....	23.2	1.7
Cyclohexanone.....	31.2	1.1
1,1 Dichloroethylene.....	42.4	5.6
1,2 Dichloroethylene.....	42.4	9.7
Ethyl Acetate.....	32.8	2.5
Ethyl Alcohol.....	55.2	4.3
Ethyl Lactate.....	28.0	1.5
Methyl Acetate.....	40.0	3.1
Methyl Alcohol.....	80.8	7.3
Methyl Cellosolve.....	40.8	2.5
Methyl Ethyl Ketone.....	36.0	1.8
Methyl n-Propyl Ketone.....	30.4	1.5
Naphtha (VM&P) (76°)		
Naphtha.....	22.4	0.9
Naphtha (100° Flash)		
Safety Solvent—Standard Solvent.....	23.2	1.1
Propyl Acetate (n).....	27.2	2.0
Propyl Acetate (iso).....	28.0	1.8
Propyl Alcohol (n).....	44.8	2.1
Propyl Alcohol (iso).....	44.0	2.0
Toluene.....	30.4	1.4
Turpentine.....	20.8	0.8
Xylene (o).....	26.4	1.0

At 212° F.

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(iv)

(a) Means for heating make-up air to any spray booth or room, before or at the time spraying is normally performed, shall be provided in all places where the outdoor temperature may be expected to remain below 55° F. for appreciable periods of time during the operation of the booth except where adequate and safe means of radiant heating for all operating personnel affected is provided. The replacement air during the heating seasons shall be maintained at not less than 65° F. at the point of entry into the spray booth or spray room. When otherwise unheated make-up air would be at a temperature of more than 10° F. below room temperature, its temperature shall be regulated as provided in section 3.6.3 of ANSI Z9.2-1960.

(b) As an alternative to an air replacement system complying with the preceding section, general heating of the building in which the spray room or booth is located may be employed provided that all occupied parts of the building are maintained at not less than 65° F. when the exhaust system is in operation or the general heating system supplemented by other sources of heat may be employed to meet this requirement.

(c) No means of heating make-up air shall be located in a spray booth.

(d) Where make-up air is heated by coal or oil, the products of combustion shall not be allowed to mix with the make-up air, and the products of combustion shall be conducted outside the building through a flue terminating at a point remote from all points where make-up air enters the building.

(e) Where make-up air is heated by gas, and the products of combustion are not mixed with the make-up air but are conducted through an independent flue to a point outside the building remote from all points where make-up air enters the building, it is not necessary to comply with (f) of this subdivision.

(f) Where make-up air to any manually operated spray booth or room is heated by gas and the products of combustion are allowed to mix with the supply air, the following precautions must be taken:

(1) Each unit shall have a discharge capacity of not less than 2,000 cubic feet of air per minute.

(2) Direct gas-fired make-up heaters may be used only to correct adverse negative pressure conditions within buildings where exhaust fans are in operation. Direct gas-fired make-up heaters may be used as door heaters provided further that the heaters are equipped with approved controls that prevent their operation unless the door is in the fully opened position.

(3) The total discharge of make-up air heaters will not exceed 110% of the capacity of the exhaust system in conjunction with which they are used, and such discharge shall be within the same space where the exhaust is located.

(4) The equipment may be installed only in buildings classified as industrial occupancies, commercial kitchens except in hospitals, garages (including auto washes), laundromats and coin-operated dry cleaners.

(5) In every case where installation is proposed, prior notice must be given to the Occupational Health Section, which will evaluate each proposed location. Permission to install will be granted only after the Occupational Health Section has determined that the proposed location is suitable for safe operation of direct gas-fired make-up heaters.

(6) The ratio of gas input to the total quantity of mixture discharged by the equipment shall not exceed 0.2%.

(7) All air handled by the equipment, including combustion air, must be brought in from outside except that primary air requirements not to exceed .5% of the total air handled may be supplied from inside the building when halogenated hydrocarbon solvents and similar substances corrosive to the heating device are not present. When these substances are present, all air must be brought from the outside.

(8) The equipment shall be electrically tied in with its corresponding exhaust system so that the former can be in operation only when the latter is in operation. In lieu of an electrical tie-in, equivalent reliable means to provide this requirement within the limit specified in Subsection (3) may be substituted if acceptable to the Occupational Health Section.

(9) The equipment shall be provided with air-flow sensing devices so designed and installed as to shut off the gas burner upon failure of either combustion air or main supply (controls actuated by failure of the power supply to the blower motor do not meet this requirement).

(10) The equipment shall be provided with combustion safeguards, an approved safety shut-off valve, and combustion air-gas interlocks, where applicable.

(11) The equipment shall be provided with both a thermostatic device for normal operation of the gas burner component, and a high temperature limit control. The latter shall be set at a temperature not to exceed 120°F and 180°F for door heaters.

(12) The equipment shall be so installed as to not raise the temperature of surrounding combustible material to higher than 160 F.

(13) Out door intakes for direct gas-fired make-up air heaters shall be at least 25 feet from stacks or outlets discharging contaminated air. Where stacks or outlets are discharging air containing halogenated hydrocarbons, the intake for the make-up heaters shall be at least 50 feet from such opening.

(14) Filters as specified by the Occupational Health Section shall be required on the make-up air heaters where the outdoor air contains a substantial concentration of dust or fume.

(15) Air Flow Switch: Air flow switch must be a true air flow sensing device and not a single static pressure tap actuated device. It must shut burner at 50% or greater of design flow under all conditions of flow failure, i.e., motor failure, belt slippage, filter plugging, and shutter failure.

(16) Purge timer: A purge timer which will delay the burner turn-on 30 seconds after air flow switch proves the flow for make-up air heaters and 5 seconds for door heaters must be installed.

(17) ALLOWABLE CONCENTRATION OF CONTAMINANTS IN DISCHARGE AIR OF DIRECT FIRED UNVENTED MAKE-UP HEATERS UNDER TEST.

(Tests to be made only during winter heating season Nov. 1 to Apr. 1)

PERMISSIBLE CONCENTRATION PPM

Contaminant	Normal Flow		Adverse Operation	
	Average	Maximum	Average	Maximum
Carbon Monoxide	10	15	15	25
Total oxides of nitrogen	1	2	1	2
Nitrogen dioxide as NO <sub>2</sub>	0.5	1	0.5	1.5
Aldehydes (as HCHO)	0.2	0.5	0.5	1
Unburned hydrocarb	10	50	25	

CONDITIONS OF TEST

(a) Normal operation: Burner properly adjusted. Test made with discharge air heated at 10°F increments until a 100°F increase in temperature is attained. Air velocity to be design velocity and uniform over mixing plates, air mixing plates clean, and gas pressure and flow as specified by manufacturers.

(b) Adverse Operation: Air flows reduced to 75% design flow and increase to 125% design flow, holes in burner plates, dirt coated and 50% plugged, premixing flow reduced 50%, and distribution of air flow across burner varied by at least 50%.

22-056 SPRAY FINISHING USING  
FLAMMABLE AND COMBUSTIBLE  
MATERIALS

(a) Scope.

- This section applies to flammable and combustible finishing materials when applied as a spray by compressed air, "airless" or "hydraulic atomization," steam, electrostatic methods, or by any other means in continuous or intermittent processes. The section also covers the application of combustible powders by powder spray guns, electrostatic powder spray guns, fluidized beds, or electrostatic fluidized beds. The section does not apply to outdoor spray application of buildings, tanks, or other similar structures, nor to small portable spraying apparatus not used repeatedly in the same location.

(b) Definitions applicable to this section.

All definitions applicable to this section are contained in 22-018(A)(c)(2)(ii) - (iv) and (vii) - (xii).

(c) Spray booths.

(1) Spray booths shall conform to all other paragraphs of this section.

(2) The regulations contained in 22-018(A)(c)(4) shall also apply to all those spray booths used in spray finishing operations which are within the scope of this section.

(d) Electrical and other sources of ignition.

(1) Electrical and other sources of ignition shall conform to all other paragraphs of this section.

(2) Regulations concerning electrical and other sources of ignition contained in 22-018 (A) (c)(5) shall apply to all spray finishing operations which are within the scope of this section.

(e) Ventilation—(1) Conformance. Ventilating and exhaust systems shall be in accordance with the Standard for Blower and Exhaust Systems for Vapor Removal, NFPA No. 91-1961, where applicable and shall also conform to the provisions of this section.

(2) General. All spraying areas shall be provided with mechanical ventilation adequate to remove flammable vapors, mists, or powders to a safe location and to confine and control combustible residues so that life is not endangered. Mechanical ventilation shall be kept in operation at all times while spraying operations are being conducted and for a sufficient time thereafter to allow vapors from drying coated articles and drying finishing material residue to be exhausted.

(3) Independent exhaust. Each spray booth shall have an independent exhaust duct system discharging to the exterior of the building, except that multiple cabinet spray booths in which identical spray finishing material is used with a combined frontal area of not more than 18 square feet may have a common exhaust. If more than one fan serves one booth, all fans shall be so interconnected that one fan cannot operate without all fans being operated.

(4) Fan-rotating element. The fan-rotating element shall be nonferrous or



nonsparking or that casing shall consist of or be lined with such material. There shall be ample clearance between the fan-rotating element and the fan casing to avoid a fire by friction, necessary allowance being made for ordinary expansion and loading to prevent contact between moving parts and the duct or fan housing. Fan blades shall be mounted on a shaft sufficiently heavy to maintain perfect alignment even when the blades of the fan are heavily loaded, the shaft preferably to have bearings outside the duct and booth. All bearings shall be of the self-lubricating type, or lubricated from the outside duct.

(5) *Electric motors.* Electric motors driving exhaust fans shall not be placed inside booths or ducts. See also paragraph (c) of this section.

(6) *Belts.* Belts shall not enter the duct or booth unless the belt and pulley within the duct or booth are thoroughly enclosed.

(7) *Exhaust ducts.* Exhaust ducts shall be constructed of steel and shall be substantially supported. Exhaust ducts without dampers are preferred; however, if dampers are installed, they shall be maintained so that they will be in a full open position at all times the ventilating system is in operation.

(i) Exhaust ducts shall be protected against mechanical damage and have a clearance from unprotected combustible construction or other combustible material of not less than 18 inches.

(ii) If combustible construction is provided with the following protection applied to all surfaces within 18 inches, clearances may be reduced to the distances indicated:

- (a) 28-gage sheet metal on 1/4- 12 inches.  
inch asbestos mill board.
- (b) 28-gage sheet metal on 1/8- 9 inches.  
inch asbestos mill board spaced  
out 1 inch on noncombustible  
spacers.
- (c) 22-gage sheet metal on 1-inch 3 inches.  
rockwool batts reinforced with  
wire mesh or the equivalent.
- (d) Where ducts are protected  
with an approved automatic  
sprinkler system, properly  
maintained, the clearance re-  
quired in subdivision (i) of  
this subparagraph may be re-  
duced to 6 inches.

(8) *Discharge clearance.* Unless the spray booth exhaust duct terminal is from a water-wash spray booth, the terminal discharge point shall be not less than 6 feet from any combustible exterior wall or roof nor discharge in the direction of any combustible construction or unprotected opening in any noncombustible exterior wall within 25 feet.

(9) *Air exhaust.* Air exhaust from spray operations shall not be directed so that it will contaminate makeup air being introduced into the spraying area or other ventilating intakes, nor directed so as to create a nuisance. Air exhausted from spray operations shall not be recirculated.

(10) *Access doors.* When necessary to facilitate cleaning, exhaust ducts shall be provided with an ample number of access doors.

(11) *Room intakes.* Air intake openings to rooms containing spray finishing operations shall be adequate for the efficient operation of exhaust fans and shall be so located as to minimize the creation of dead air pockets.

(12) *Drying spaces.* Freshly sprayed articles shall be dried only in spaces provided with adequate ventilation to prevent the formation of explosive vapors. In the event adequate and reliable ventilation is not provided such drying spaces shall be considered a spraying area. See also paragraph (K) of this section.

(F) *Flammable and combustible liquids—storage and handling—(1) Conformance.* The storage of flammable or combustible liquids in connection with spraying operations shall conform to the requirements of § 22-055 where applicable.

(2) *Quantity.* The quantity of flammable or combustible liquids kept in the vicinity of spraying operations shall be the minimum required for operations and should ordinarily not exceed a supply for 1 day or one shift. Bulk storage of portable containers of flammable or combustible liquids shall be in a separate, constructed building detached from other important buildings or cut off in a standard manner.

(3) *Containers.* Original closed containers, approved portable tanks, approved safety cans or a properly arranged system of piping shall be used for bringing flammable or combustible liquids into spray finishing room. Open or glass containers shall not be used.

(4) *Transferring liquids.* Except as provided in subparagraph (5) of this paragraph the withdrawal of flammable and combustible liquids from containers having a capacity of greater than 60 gallons shall be by approved pumps. The withdrawal of flammable or combustible liquids from containers and the filling of containers, including portable mixing tanks, shall be done only in a suitable mixing room or in a spraying area when the ventilating system is in operation. Adequate precautions shall be taken to protect against liquid spillage and sources of ignition.

(5) *Spraying containers.* Containers supplying spray nozzles shall be of closed type or provided with metal covers kept closed. Containers not resting on floors shall be on metal supports or suspended by wire cables. Containers supplying spray nozzles by gravity flow shall not exceed 10 gallons capacity. Original shipping containers shall not be subject to air pressure for supplying spray nozzles. Containers under air pressure supplying spray nozzles shall be of limited capacity, not exceeding that necessary for 1 day's operation; shall be designed and approved for such use; shall be provided with a visible pressure gage; and shall be provided with a relief valve set to operate in conformance with the requirements of the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessel Code—1968. Containers under air pressure supplying spray nozzles, air-storage tanks and coolers shall conform to the standards

of the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessel Code—1968 for construction, tests, and maintenance.

(6) *Pipes and hoses.* (i) All containers or piping to which is attached a hose or flexible connection shall be provided with a shutoff valve at the connection. Such valves shall be kept shut when spraying operations are not being conducted.

(ii) When a pump is used to deliver products, automatic means shall be provided to prevent pressure in excess of the design working pressure of accessories, piping, and hose.

(iii) All pressure hose and couplings shall be inspected at regular intervals appropriate to this service. The hose and couplings shall be tested with the hose extended, and using the "inservice maximum operating pressures." Any hose showing material deteriorations, signs of leakage, or weakness in its carcass or at the couplings, shall be withdrawn from service and repaired or discarded.

(iv) Piping systems conveying flammable or combustible liquids shall be of steel or other material having comparable properties of resistance to heat and physical damage. Piping systems shall be properly bonded and grounded.

(7) *Spray liquid heaters.* Electrically powered spray liquid heaters shall be approved and listed for the specific location in which used (see paragraph (c) of this section). Heaters shall not be located in spray booths nor other locations subject to the accumulation of deposits or combustible residue. Agitators, if used, should preferably be driven by compressed air, water, or low-pressure steam. If an electric motor is used, see paragraph (c) of this section.

(8) *Pump relief.* If flammable or combustible liquids are supplied to spray nozzles by positive displacement pumps, the pump discharge line shall be provided with an approved relief valve discharging to a pump suction or a safe detached location, or a device provided to stop the prime mover if the discharge pressure exceeds the safe operating pressure of the system.

(9) *Grounding.* Whenever flammable or combustible liquids are transferred from one container to another, both containers shall be effectively bonded and grounded to prevent discharge sparks of static electricity.

(g) *Protection—(1) Conformance.* In sprinklered buildings, the automatic sprinkler system in rooms containing spray finishing operations shall conform to the Standard for the Installation of Sprinkler Systems, NFPA 13-1969, provisions for Extra Hazard Occupancy, and in unsprinklered buildings where sprinklers are installed only to protect spraying areas, the installation shall conform to such standards insofar as they may be applicable. Sprinkler installations shall also conform to the provisions of this paragraph. Sprinkler heads shall be located to effect water distribution throughout the entire booth.

(2) *Valve access.* Automatic sprinklers protecting each spray booth (together with its connecting exhaust) shall be under an accessibly located separate outside stem and yoke (OS&Y) subcontrol valve.

(3) *Cleaning of heads.* Sprinklers protecting spraying areas shall be kept as free from deposits as practical by cleaning daily if necessary. (See also paragraph (h) of this section.)

(4) *Portable extinguishers.* An adequate supply of suitable portable fire extinguishers shall be installed near all spraying areas.

(h) *Operations and maintenance.*—

(1) *Spraying.* Spraying shall not be conducted outside of predetermined spraying areas.

(2) *Cleaning.* All spraying areas shall be kept as free from the accumulation of deposits of combustible residues as practical, with cleaning conducted daily if necessary. Scrapers, spuds, or other such tools used for cleaning purposes shall be of nonsparking material.

(3) *Residue disposal.* Residue scrapings and debris contaminated with residue shall be immediately removed from the premises and properly disposed of. Approved metal waste cans shall be provided wherever rags or waste are impregnated with finishing material and all such rags or waste deposited therein immediately after use. The contents of waste cans shall be properly disposed of at least once daily or at the end of each shift.

(4) *Clothing storage.* Spray finishing employees' clothing shall not be left on the premises overnight unless kept in metal lockers.

(5) *Cleaning solvents.* The use of solvents for cleaning operations shall be restricted to those having flashpoints not less than 100° F.; however, for cleaning spray nozzles and auxiliary equipment, solvents having flashpoints not less than those normally used in spray operations may be used. Such cleaning shall be conducted inside spray booths and ventilating equipment operated during cleaning.

(6) *Hazardous materials combinations.* Spray booths shall not be alternately used for different types of coating materials, where the combination of the materials may be conducive to spontaneous ignition, unless all deposits of the first used material are removed from the booth and exhaust ducts prior to spraying with the second used material.

(7) *"No Smoking" signs.* "No smoking" signs in large letters on contrasting color background shall be conspicuously posted at all spraying areas and paint storage rooms.

#### (i) Fixed electrostatic apparatus.

Where installation and use of fixed electrostatic spraying equipment is used, such installation and use shall conform to all other paragraphs of this section, and shall also conform to the requirements of 22-018(A)(c)(6).

#### (j) Electrostatic hand spraying equipment.

Where electrostatic hand spraying equipment is used, such use shall conform to all other paragraphs of this section, and shall also conform to the requirements of 22-018(A)(c)(7).

#### (k) Drying, curing, or fusion apparatus.

Drying, curing, or fusion apparatus used in connection with spray finishing operations shall conform to all other paragraphs of this section, and shall also conform to the requirements of 22-018(A)(c)(9).

(1) *Automobile undercoating in garages.* Automobile undercoating spray operations in garages, conducted in areas having adequate natural or mechanical ventilation, are exempt from the requirements pertaining to spray finishing operations, when using undercoating materials not more hazardous than kerosene (as listed by Underwriters' Laboratories in respect to fire hazard rating 30-40) or undercoating materials using only solvents listed as having a flash point in excess of 100° F. Undercoating spray operations not conforming to these provisions are subject to all requirements of this section pertaining to spray finishing operations.

#### (m) Powder coating.

(1) Electrical and other sources of ignition. Electrical equipment and other sources of ignition shall conform to the requirements of 22-018(A)(c)(5)(i)(a)-(d), 22-018(A)(c)(5)(viii), and 22-018(A)(c)(5)(ix)(a), and the National Electrical Code, NFPA 70-1971, ANSI C1-1971.

(2) *Ventilation.* (i) In addition to the provisions of paragraph (2) of this section, where applicable, exhaust ventilation shall be sufficient to maintain the atmosphere below the lowest explosive limits for the materials being applied. All nondeposited air-suspended powders shall be safely removed via exhaust ducts to the powder recovery cyclone or receptacle. Each installation shall be designed and operated to meet the foregoing performance specification.

(ii) Powders shall not be released to the outside atmosphere.

(3) *Drying, curing, or fusion equipment.* The provisions of the Standard for ovens and furnaces, NFPA No. 86A-1969 shall apply where applicable.

(4) *Operation and maintenance.* (i) All areas shall be kept free of the accumulation of powder coating dusts, particularly such horizontal surfaces as ledges, beams, pipes, hoods, booths, and floors.

(ii) Surfaces shall be cleaned in such manner as to avoid scattering dust to other places or creating dust clouds.

(iii) "No Smoking" signs in large letters on contrasting color background shall be conspicuously posted at all powder coating areas and powder storage rooms.

(5) *Fired electrostatic spraying equipment.* The provisions of paragraph (4) of this section and other subparagraphs of this paragraph shall apply to fixed electrostatic equipment, except that electrical equipment not covered therein shall conform to subparagraph (1) of this paragraph.

(6) *Electrostatic hand spraying equipment.* The provisions of paragraph (1) of this section and other subparagraphs of this paragraph, shall apply to electrostatic handguns when used in powder coating, except that electrical equipment not covered therein shall conform to subparagraph (1) of this paragraph.

(7) *Electrostatic fluidized beds.* (1) Electrostatic fluidized beds and associated equipment shall be of approved types. The maximum surface temperature of this equipment in the coating area shall not exceed 150° F. The high voltage circuits shall be so designed as to not produce a spark of sufficient intensity to ignite any powder-air mixtures nor result in appreciable shock hazard upon coming in contact with a grounded object under normal operating conditions.

(ii) Transformers, powerpacks, control apparatus, and all other electrical portions of the equipment, with the exception of the charging electrodes and their connections to the power supply shall be located outside of the powder coating area or shall otherwise conform to the requirements of subparagraph (1) of this paragraph.

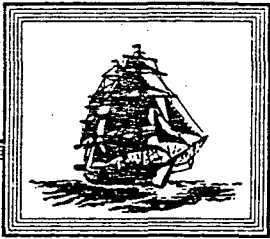
(iii) All electrically conductive objects within the charging influence of the electrodes shall be adequately grounded. The powder coating equipment shall carry a prominent, permanently installed warning regarding the necessity for grounding these objects.

(iv) Objects being coated shall be maintained in contact with the conveyor or other support in order to insure proper grounding. Hangers shall be regularly cleaned to insure effective contact and areas of contact shall be sharp points or knife edges where possible.

(v) The electrical equipment shall be so interlocked with the ventilation system that the equipment cannot be operated unless the ventilation fans are in operation.

(n) *Organic peroxides and dual component coatings—(1) Conformance.* All spraying operations involving the use of organic peroxides and other dual component coatings shall be conducted in approved sprinklered spray booths meeting the requirements of this section.

(2) *Smoking.* Smoking shall be prohibited and "No Smoking" signs shall be prominently displayed and only non-sparking tools shall be used in any area where organic peroxides are stored, mixed or applied.



# NORTHWEST MARINE IRON WORKS

SHIP REPAIRING • GENERAL MACHINE WORK • ENGINEERING

MAIL ADDRESS: P. O. BOX 3109  
PORTLAND, OREGON 97208

2516 N. W. 29TH AVENUE  
TELEPHONE: 228-8222  
AREA CODE 503  
PORTLAND, OREGON

October 2, 1978  
Serial No. 2904-20

I.H.I.  
Lloyd Building, Suite 250  
700 N. E. Multnomah Street  
Portland, Oregon 97232

Attention: Mr. K. Ando, Senior Manager

Subject: Floating Drydock #4  
Progress Photos

Reference: I.NMIW - IHI Subcontract Agreement

Gentlemen:

Northwest Marine Iron Works' quotation given in Item 9 of the Supplemental Agreement No. 1 of Ref. (1) was taken from the normal photographic services used by Northwest Marine Iron Works. However, since I.H.I.'s verbal request for progress photos, Northwest Marine has requested quotations from other professional photographic services and has received the following acceptable costs for the weekly progress photos. This will save I.H.I. considerable expense and still give the quality and diversity required.

1. Photographic Service charge	\$100.00
2. Per picture negative process charge	\$ 7.00 each
3. First print from any negative	\$ 8.00 each
4. Second and successive prints	\$ 6.50 each

Progress photos will be taken at I.H.I.'s direction and billing will be invoice plus 10%.

Please advise Northwest Marine Iron Works of your selection as soon as possible and your projected starting date.

Please do not hesitate to call if you have any questions regarding this item.

Very truly yours,

*David L. Hiller*

David L. Hiller  
Project Manager

DLH/sw

NWMAR134462

August 6, 1980

TO: Purchasing Department

SUBJECT: Material Safety Data Sheet

The Material Safety Data Sheet has been identified by OSHA as a record of hazardous exposure to employees and such information must be provided to employees and be on file for examination.

All materials that will constitute a health hazard to workers when used without special precautions require the employer to have on file a Material Safety Data Sheet. This includes any material that contains a warning provided by the manufacturer or any material generally recognized by normal test procedures or published sources.

Purchase orders for products falling in categories listed below should be prepared with the following statement:

"Purchase of this product is contingent upon your furnishing a Material Safety Data Sheet, Form OSHA-20 or an essentially similar form, as outlined in OSHA Regulation 29 CFR 1910.20"

The following material categories require OSHA Form-20:

Any dry or liquid chemicals containing acids or caustics

Any petroleum products

Any paint/coating product or adhesive

Any welding rod/wire or brazing material and associated fluxes

Any woven material containing Asbestos fibers

Any abrasive material containing Silicon Dioxide ( $\text{SiO}_2$ ) that becomes a free form during breakdown as Silica in respirable air

Any disinfectants, cleaning materials

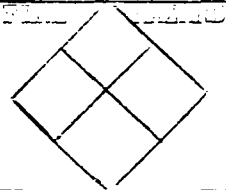
Any other material recognized as offering a risk to employees

Compressed gases that will explode or be immediately dangerous to health

It is recommended this practice be initiated no later than August 21, 1980, when the Employee Exposure and Medical Record Access becomes effective.

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NWMAR134463



U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health Administration

Form Approved  
OMB No. 44-R1387

# MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
ADDRESS (Number, Street, City, State, and ZIP Code)	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
CHEMICAL FAMILY	FORMULA

## SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)

## SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H <sub>2</sub> O=1)	
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER			
APPEARANCE AND ODOR			

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	LeI	UeI
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

**SECTION V - HEALTH HAZARD DATA**

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE

EMERGENCY AND FIRST AID PROCEDURES

**SECTION VI - REACTIVITY DATA**

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

INCOMPATIBILITY *(Materials to avoid)*

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS  
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

**SECTION VII - SPILL OR LEAK PROCEDURES**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

WASTE DISPOSAL METHOD

**SECTION VIII - SPECIAL PROTECTION INFORMATION**RESPIRATORY PROTECTION *(Specify type)*

VENTILATION

LOCAL EXHAUST

SPECIAL

MECHANICAL *(General)*

OTHER

PROTECTIVE GLOVES

EYE PROTECTION

OTHER PROTECTIVE EQUIPMENT

**SECTION IX - SPECIAL PRECAUTIONS**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

OTHER PRECAUTIONS

In accordance with 29 CFR 1910.20, Access to Employee Exposure and Medical Records, \_\_\_\_\_, hereby informs all employees of the following:

I. RECORDS OF TOXIC SUBSTANCES OR HARMFUL AGENTS

A. Company employee record pertaining to exposure is maintained by: \_\_\_\_\_

1. The person responsible for safety is \_\_\_\_\_, and records maintained including following:
  - a. Workers Compensation claim for job related illness/injury.
  - b. OSHA log for job related illness/injury.
  - c. First aid report form, (if appropriate).
2. The person responsible for safety is \_\_\_\_\_, and records maintained include the following:
  - a. Material Safety Data Sheets for products used in the workplace.
  - b. Industrial Hygiene monitoring records of environment found in the workplace, including general and personal sampling.
  - c. Medical findings and recommendations for employees designated to have physical examinations reported to the company by physician. (Actual medical records are retained by the physician, and requires written permission from the employee to examine).

II. AVAILABILITY OF RECORDS TO EMPLOYEES

A. Access to records maintained are available to the employee, the collective bargaining agent for his craft, or any designated representative who has been given written authorization, and the Representative of the Assistant Secretary of Labor.

1. The department maintaining the records shall be notified in advance by the employee, requesting a suitable time for the opportunity to examine and copy any records covered in the standard.

III. AVAILABILITY OF THE OSHA STANDARD, 29 CFR 1910.20

- A. Copies of the standard will be located in \_\_\_\_\_.
- B. Additional informational material concerning this standard will be made available to employees whenever it is received from the Assistant Secretary of Labor for Occupational Safety and Health.

8/9/80

NWMAR134466



### Subpart C—General Safety and Health Provisions

1. Section 1910.20 is revised to read as follows, including the addition of Appendices A and B:

#### § 1910.20 Access to employee exposure and medical records.

(a) *Purpose.* The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records; and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees, their representatives, and the Assistant Secretary is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. Each employer is responsible for assuring compliance with this section, but the activities involved in complying with the access to medical records provisions can be carried out, on behalf of the employer, by the physician or other health care personnel in charge of employee medical records. Except as expressly provided, nothing in this section is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.

(b) *Scope and application.* (1) This section applies to each general industry, maritime, and construction employer who makes, maintains, contracts for, or has access to employee exposure or medical records, or analyses thereof, pertaining to employees exposed to toxic substances or harmful physical agents.

(2) This section applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents, whether or not the records are related to specific occupational safety and health standards.

(3) This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including on an in-house or contractual (e.g., fee-for-service) basis. Each employer shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which records are made or maintained.

(c) *Definitions.* (1) "Access" means the right and opportunity to examine and copy.

(2) "Analysis using exposure or medical records" means any compilation of data, or any research, statistical or other study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

(3) "Designated representative" means any individual or organization to whom an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

(4) "Employee" means a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In the case of a deceased or legally incapacitated employee, the employee's legal representative may directly exercise all the employee's rights under this section.

(5) "Employee exposure record" means a record containing any of the following kinds of information

concerning employee exposure to toxic substances or harmful physical agents:

(i) environmental (workplace) monitoring or measuring, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;

(ii) biological monitoring results which directly assess the absorption of a substance or agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent;

(iii) material safety data sheets; or

(iv) in the absence of the above, any other record which reveals the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.

(6)(i) "Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including:

(A) medical and employment questionnaires or histories (including job description and occupational exposures);

(B) the results of medical examinations (pre-employment, pre-assignment, periodic, or episodic) and laboratory tests (including X-ray examinations and all biological monitoring);

(C) medical opinions, diagnoses, progress notes, and recommendations;

(D) descriptions of treatments and prescriptions; and

(E) employee medical complaints.

(ii) "Employee medical record" does not include the following:

(A) physical specimens (e.g., blood or urine samples) which are routinely discarded as a part of normal medical practice, and are not required to be maintained by other legal requirements;

(B) records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (e.g., social security number, payroll number, etc.), or

(C) records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.

(7) "Employer" means a current employer, a former employer, or a successor employer.

(8) "Exposure" or "exposed" means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (e.g., accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.

(9) "Record" means any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, microfilm, X-ray film, or automated data processing).

(10) "Specific written consent" (i) means a written authorization containing the following:

(A) the name and signature of the employee authorizing the release of medical information;

(B) the date of the written authorization;

(C) the name of the individual or organization that is authorized to release the medical information;

(D) the name of the designated representative (individual or organization) that is authorized to receive the released information;

(E) a general description of the medical information that is authorized to be released;

(F) a general description of the purpose for the release of the medical information; and

(G) a date or condition upon which the written authorization will expire (if less than one year).

(ii) A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless this is expressly authorized, and does not operate for more than one year from the date of written authorization.

(iii) A written authorization may be revoked in writing prospectively at any time.

(11) "Toxic substance or harmful physical agent" means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo- or hyperbaric pressure, etc.) which:

(i) is regulated by any Federal law or rule due to a hazard to health;

(ii) is listed in the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of

Chemical Substances (RTECS) (See Appendix B).

(iii) has yielded positive evidence of an acute or chronic health hazard in human, animal, or other biological testing conducted by, or known to, the employer; or

(iv) has a material safety data sheet available to the employer indicating that the material may pose a hazard to human health.

(d) *Preservation of records.* (1) Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

(i) *Employee medical records.* Each employee medical record shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that health insurance claims records maintained separately from the employer's medical program and its records need not be retained for any specified period;

(ii) *Employee exposure records.* Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

(A) Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year so long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and

(B) Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years; and

(iii) *Analyses using exposure or medical records.* Each analysis using exposure or medical records shall be preserved and maintained for at least thirty (30) years.

(2) Nothing in this section is intended to mandate the form, manner, or process by which an employer preserves a record so long as the information contained in the record is preserved and retrievable, except that X-ray films shall be preserved in their original state.

(e) *Access to records.* (1) *General.* (i) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time,

place, and manner, but in no event later than fifteen (15) days after the request for access is made.

(ii) Whenever an employee or designated representative requests a copy of a record, the employer shall, within the period of time previously specified, assure that either:

(A) a copy of the record is provided without cost to the employee or representative,

(B) the necessary mechanical copying facilities (e.g., photocopying) are made available without cost to the employee or representative for copying the record, or

(C) the record is loaned to the employee or representative for a reasonable time to enable a copy to be made.

(iii) Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that

(A) An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and

(B) An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

(iv) Nothing in this section is intended to preclude employees and collective bargaining agents from collectively bargaining to obtain access to information in addition to that available under this section.

(2) *Employee and designated representative access.* (i) *Employee exposure records.* Each employer shall, upon request, assure the access of each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, exposure records relevant to the employee consist of:

(A) records of the employee's past or present exposure to toxic substances or harmful physical agents,

(B) exposure records of other employees with past or present job duties or working conditions related to or similar to those of the employee,

(C) records containing exposure information concerning the employee's workplace or working conditions, and

(D) exposure records pertaining to workplaces or working conditions to

which the employee is being assigned or transferred.

(ii) *Employee medical records.* (A) Each employer shall, upon request, assure the access of each employee to employee medical records of which the employee is the subject, except as provided in paragraph (e)(2)(ii)(D) below.

(B) Each employer shall, upon request, assure the access of each designated representative to the employee medical records of any employee who has given the designated representative specific written consent. Appendix A to this section contains a sample form which may be used to establish specific written consent for access to employee medical records.

(C) Whenever access to employee medical records is requested, a physician representing the employer may recommend that the employee or designated representative:

(1) consult with the physician for the purposes of reviewing and discussing the records requested,

(2) accept a summary of material facts and opinions in lieu of the records requested, or

(3) accept release of the requested records only to a physician or other designated representative.

(D) Whenever an employee requests access to his or her employee medical records, and a physician representing the employer believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the employer may inform the employee that access will only be provided to a designated representative of the employee having specific written consent, and deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the employer shall assure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.

(E) Nothing in this section precludes a physician, nurse, or other responsible health care personnel maintaining employee medical records from deleting from requested medical records the identity of a family member, personal friend, or fellow employee who has provided confidential information concerning an employee's health status.

(iii) *Analyses using exposure or medical records.*

(A) Each employer shall, upon request, assure the access of each employee and designated representative to each analysis using exposure or medical records concerning the employee's working conditions or workplace.

(B) Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

(3) *OSHA access.* (i) Each employer shall, upon request, assure the immediate access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.

(ii) Whenever OSHA seeks access to personally identifiable employee medical information by presenting to the employer a written access order pursuant to 29 CFR 1913.10(d), the employer shall prominently post a copy of the written access order and its accompanying cover letter for at least fifteen (15) working days.

(f) *Trade secrets.* (1) Except as provided in paragraph (f)(2) of this section, nothing in this section precludes an employer from deleting from records requested by an employee or designated representative any trade secret data which discloses manufacturing processes, or discloses the percentage of a chemical substance in a mixture, as long as the employee or designated representative is notified that information has been deleted. Whenever deletion of trade secret information substantially impairs evaluation of the place where or the time when exposure to a toxic substance or harmful physical agent occurred, the employer shall provide alternative information which is sufficient to permit the employee to identify where and when exposure occurred.

(2) Notwithstanding any trade secret claims, whenever access to records is requested, the employer shall provide

access to chemical or physical agent identities including chemical names, levels of exposure, and employee health status data contained in the requested records.

(3) Whenever trade secret information is provided to an employee or designated representative, the employer may require, as a condition of access, that the employee or designated representative agree in writing not to use the trade secret information for the purpose of commercial gain and not to permit misuse of the trade secret information by a competitor or potential competitor of the employer.

(g) *Employee information.* (1) Upon an employee's first entering into employment, and at least annually thereafter, each employer shall inform employees exposed to toxic substances or harmful physical agents of the following:

(i) the existence, location, and availability of any records covered by this section;

(ii) the person responsible for maintaining and providing access to records; and

(iii) each employee's rights of access to these records.

(2) Each employer shall make readily available to employees a copy of this standard and its appendices, and shall distribute to employees any informational materials concerning this standard which are made available to the employer by the Assistant Secretary of Labor for Occupational Safety and Health.

(h) *Transfer of records.* (1) Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.

(2) Whenever an employer is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, the employer shall notify affected employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.

(3) Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall:

(i) transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by a specific occupational safety and health standard; or

(ii) notify the Director of NIOSH in writing of the impending disposal of

records at least three (3) months prior to the disposal of the records.

(4) Where an employer regularly disposes of records required to be preserved for at least thirty (30) years, the employer may, with at least (3) months notice, notify the Director of NIOSH on an annual basis of the records intended to be disposed of in the coming year.

(i) *Appendices.* The information contained in the appendices to this section is not intended, by itself, to create any additional obligations not otherwise imposed by this section nor detract from any existing obligation.

(j) *Effective date.* This section shall become effective on August 21, 1980. All obligations of this section commence on the effective date except that the employer shall provide the information required under paragraph (g)(1) of this section to all current employees within sixty (60) days after the effective date.

**Appendix A to § 1910.20—Sample Authorization Letter for the Release of Employee Medical Record Information to a Designated Representative**

I, \_\_\_\_\_, (full name of worker/patient) hereby authorize \_\_\_\_\_ (individual or organization holding the medical records) to release to \_\_\_\_\_ (individual or organization authorized to receive the medical information), the following medical information from my personal medical records:

(Describe generally the information desired to be released.)

I give my permission for this medical information to be used for the following purpose: \_\_\_\_\_, but I do not give permission for any other use or re-disclosure of this information.

(Note.—Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records which you do not intend to be released as a result of this letter.)

Full name of Employee or Legal Representative

Signature of Employee or Legal Representative

Date of Signature

**Appendix B to § 1910.20—Availability of NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) <sup>1</sup>**

The final standard, 29 CFR 1910.20, applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents (paragraph (b)(2)). The term "toxic substance or harmful physical agent" is defined by paragraph (c)(11) to encompass chemical substances, biological agents, and physical stresses for which there is evidence of harmful health effects. The standard uses the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) as one of the chief sources of information as to whether evidence of harmful health effects exists. If a substance is listed in the latest printed RTECS, the standard applies to exposure and medical records (and analyses of these records) relevant to employees exposed to the substance.

It is appropriate to note that the final standard does not require that employers purchase a copy of RTECS, and many employers need not consult RTECS to ascertain whether their employee exposure or medical records are subject to the standard. Employers who do not currently have the latest printed edition of the NIOSH RTECS, however, may desire to obtain a copy. The RTECS is issued in an annual printed edition as mandated by section 20(a)(6) of the Occupational Safety and Health Act (29 U.S.C. 669(a)(6)). The 1978 edition is the most recent printed edition as of May 1, 1980. Its Foreword and Introduction describes the RTECS as follows:

"The annual publication of a list of known toxic substances is a NIOSH mandate under the Occupational Safety and Health Act of 1970. It is intended to provide basic information on the known toxic and biological effects of chemical substances for the use of employers, employees, physicians, industrial hygienists, toxicologists, researchers, and, in general, anyone concerned with the proper and safe handling of chemicals. In turn, this information may contribute to a better understanding of potential occupational hazards by everyone involved and ultimately may help to bring about a more healthful workplace environment. (p. iii)

"This Registry contains 124,247 listings of chemical substances: 33,929 are names of different chemicals with their associated toxicity data and 90,318 are synonyms. This edition includes approximately 7,500 new chemical compounds that did not appear in the 1977 Registry. (p. xiii)

"The Registry's purposes are many, and it serves a variety of users. It is a single source document for basic toxicity information and for other data, such as chemical identifiers and information necessary for the preparation of safety directives and hazard

<sup>1</sup> On April 24, 1980, the Director of the Federal Register approved for incorporation by reference into 29 CFR 1910, the 1978 edition of the National Institute for Occupational Safety and Health Registry of Toxic Effects of Chemical Substances (the Registry). (See 29 CFR 1910.20 (c)(11)(iii)).

evaluations for chemical substances. The various types of toxic effects linked to literature citations provide researchers and occupational health scientists with an introduction to the toxicological literature, making their own review of the toxic hazards of a given substance easier. By presenting data on the lowest reported doses that produce effects by several routes of entry in various species, the Registry furnishes valuable information to those responsible for preparing safety data sheets for chemical substances in the workplace. Chemical and production engineers can use the Registry to identify the hazards which may be associated with chemical intermediates in the development of final products, and thus can more readily select substitutes or alternate processes which may be less hazardous. (p. xiii)

"In this edition of the Registry, the editors intend to identify "all known toxic substances" which may exist in the environment and to provide pertinent data on the toxic effects from known doses entering an organism by any route described. Data may be used for the evaluation of chemical hazards in the environment, whether they be in the workplace, recreation area, or living quarters. (p. xiii)

"It must be reemphasized that the entry of a substance in the Registry does not automatically mean that it must be avoided. A listing does mean, however, that the substance has the documented potential of being harmful if misused, and care must be exercised to prevent tragic consequences. (p. xiv)"

The RTECS 1978 printed edition may be purchased for \$13.00 from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402 (202-783-3238) (Order GPO Stock No. 017-033-00346-7). The 1979 printed edition is anticipated to be issued in the summer of 1980. Some employers may also desire to subscribe to the quarterly update to the RTECS which is published in a microfiche edition. An annual subscription to the quarterly microfiche may be purchased from the GPO for \$14.00 (Order the "Microfiche Edition, Registry of Toxic Effects of Chemical Substances"). Both the printed edition and the microfiche edition of RTECS are available for review at many university and public libraries throughout the country. The latest RTECS editions may also be examined at the OSHA Technical Data Center, Room N2439-Rear, United States Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210 (202-523-9700), or at any OSHA Regional or Area Office [See, major city telephone directories under United States Government-Labor Department].

#### Subpart T—Commercial Diving Operations

2. Section 1910.440 is amended by revising paragraphs (b)(2) and (b)(4) to read as follows:

##### §1910.440 Recordkeeping requirements.

(b) \* \* \*

(2) Records and documents required by this standard shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). Safe practices manuals (§1910.420), depth-time profiles (§1910.422), recordings of dives (§1910.423), decompression procedure assessment evaluations (§1910.423), and records of hospitalizations (§1910.440) shall be provided in the same manner as employee exposure records or analyses using exposure or medical records. Equipment inspections and testing records which pertain to employees (§1910.430) shall also be provided upon request to employees and their designated representatives.

(4) After the expiration of the retention period of any record required to be kept for five (5) years, the employer shall forward such records to the National Institute for Occupational Safety and Health, Department of Health and Human Services. The employer shall also comply with any additional requirements set forth at 29 CFR 1910.20(h).

#### Subpart Z—Toxic and Hazardous Substances

3. Section 1910.1001 is amended by revising paragraphs (i)(2) and (j)(6)(ii) to read as follows:

##### §1910.1001 Asbestos.

(i) \* \* \*

(2) *Access.* Employee exposure records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i).

(j) \* \* \*  
(6) \* \* \*

(ii) *Access.* Records of the medical examinations required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon the request to the Director of NIOSH. Any physician who conducts a medical examination required by this paragraph shall furnish to the employer of the examined employee all the information specifically required by this paragraph, and any other medical information related to occupational exposure to asbestos fibers.

4. Section 1910.1003 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1003 4-Nitrobiphenyl.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

5. Section 1910.1004 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1004 alpha-Naphthylamine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

6. Section 1910.1006 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1006 Methyl chloromethyl ether.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

7. Section 1910.1007 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1007 3-3'-Dichlorobenzidine (and its salts).

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

8. Section 1910.1008 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1008 bis-Chloromethyl ether.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

9. Section 1910.1009 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1009 beta-Naphthylamine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

10. Section 1910.1010 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1010 Benzidine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

11. Section 1910.1011 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1011 4-Aminodiphenyl.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

12. Section 1910.1012 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1012 Ethyleneimine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

13. Section 1910.1013 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1013 beta-Propiolactone.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

14. Section 1910.1014 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1014 2-Acetylaminofluorene.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

15. Section 1910.1015 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1015 4-Dimethylaminoazobenzene.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

16. Section 1910.1016 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1016 N-Nitrosodimethylamine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

17. Section 1910.1017 is amended by revising the introductory text of paragraph (m)(2) and paragraph (m)(3) and removing paragraphs (m)(4), (m)(5) and (m)(6) to read as follows:

§ 1910.1017 Vinyl chloride.

(m) \* \* \*

(2) Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall be provided upon request to the Director. Authorized personnel rosters shall also be provided upon request to the Assistant Secretary and the Director.

(i) \* \* \*  
(ii) \* \* \*  
(iii) \* \* \*

(3) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in 29 CFR 1910.20(h).

18. Section 1910.1018 is amended by revising paragraphs (q)(3)(ii) and Appendix A Section VIII, by removing paragraph (q)(3)(iii) and by adding paragraph (q)(4)(iv) to read as follows:

§ 1910.1018 Inorganic arsenic.

(q) \* \* \*  
(3) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving the transfer of records set in 29 CFR 1910.20(h).

#### Appendix A—Inorganic Arsenic Substance Information Sheet

##### VIII. Access to Records

You or your representative are entitled to records of your exposure to inorganic arsenic and your medical examination records if you request your employer to provide them.

19. Section 1910.1025 is amended by revising paragraphs (n)(4)(ii), removing paragraph (n)(4)(iii) and by adding paragraph (n)(5)(iv) to read as follows:

#### §1910.1025 Lead.

(n) \* \* \*

(4) \* \* \*

(ii) Environmental monitoring, medical removal, and medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (2)–(i). Medical removal records shall be provided in the same manner as environmental monitoring records.

(5) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

20. Section 1910.1028 is amended by revising paragraphs (l)(3)(ii) and Appendix A Section VII, by removing paragraphs (l)(3)(iii) and (l)(3)(iv) and by adding paragraph (l)(4)(iv) to read as follows:

#### §1910.1028 Benzene.

(1) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

#### Appendix A—Substance Safety Data Sheet, Benzene

##### VII. Access to Records.

You or your representative are entitled to see the records of your exposure to benzene and your medical examination records if you request your employer to provide them.

21. Section 1910.1029 is amended by revising paragraphs (m)(3)(ii), removing paragraphs (m)(3)(iii) and (m)(3)(iv), and by adding paragraph (m)(4)(iv) to read as follows:

#### §1910.1029 Coke oven emissions.

(m) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

22. Section 1910.1043 is amended by revising paragraphs (k)(3)(ii) by removing paragraphs (k)(3)(iii) and (k)(3)(iv) and by adding paragraph (k)(4)(iv) to read as follows:

#### §1910.1043 Cotton dust.

(k) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

23. Section 1910.1044 is amended by revising paragraphs (p)(3)(ii) by removing paragraphs (p)(3)(iii) and (p)(3)(iv) and by adding paragraph (p)(4)(iv) to read as follows:

#### §1910.1044 1,2-Dibromo-3-chloropropane.

(p) \* \* \*

(3) \* \* \*

(ii) Employee exposure monitoring records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

24. Section 1910.1045 is amended by revising paragraphs (q)(4)(ii) and Appendix A section VI, D by removing paragraph (q)(4)(iii) and by adding paragraph (q)(5)(iv) to read as follows:

#### §1910.1045 Acrylonitrile.

(q) \* \* \*

(4) \* \* \*

(ii) Records required by paragraphs (q)(1)–(q)(3) of this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (q)–(i). Records required by paragraph (q)(1) shall be provided in the same manner as exposure monitoring records.

(5) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

#### Appendix A—Substance Safety Data Sheet for Acrylonitrile

##### VI. Access to Information

D. Your employer is required to release your exposure and medical records to you or your representative upon your request.

25. Section 1910.1046 is amended by revising paragraph (h)(2)(ii) and by adding paragraph (h)(3)(iv) to read as follows:

#### §1910.1046 Exposure to cotton dust in cotton gins.

(h) \* \* \*

(2) \* \* \*

(ii) Employee medical records shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(3) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

26. Section 1990.151 is amended by revising paragraphs (q)(3)(ii) by removing paragraph (q)(3)(iii) and by adding paragraph (q)(4)(iv) to read as follows:

#### §1910.151 Model Standard pursuant to section 6(b) of the Act.



(q) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)-(e) and (g)-(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

27. Section 1990.152 is amended by revising paragraphs (q)(3)(i) and (q)(3)(ii) and removing (q)(3)(iii) to read as follows:

**§1990.152 Model Emergency Temporary Standard pursuant to section 6(c).**

(q) \* \* \*

(3) \* \* \*

(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1990.20(a)-(e) and (g)-(i).

(Secs. 6(b), 8(c) and 8(g) (84 Stat. 1593, 1599, 1600; 29 U.S.C. 655, 657), the Secretary of Labor's Order 8-76 (41 FR 25059) and 29 CFR Part 1911, Chapter XVII of Title 29)

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BILLING CODE 4510-26-M

**29 CFR Part 1913**

**Rules of Agency Practice and Procedure Concerning OSHA Access to Employee Medical Records**

**AGENCY:** The Occupational Safety and Health Administration of the United States Department of Labor (OSHA).

**ACTION:** Final rule.

**SUMMARY:** These rules of agency practice and procedure, promulgated today as a new 29 CFR 1913.10, govern OSHA access to personally identifiable employee medical information contained in medical records. The rules are structured to protect the substantial personal privacy interests inherent in identifiable medical records, while also permit OSHA to make beneficial use of these records for proper occupational safety and health purposes. The rules

regulate the manner in which OSHA will seek access to employee medical records, and how the medical information will be protected once in the agency's possession.

**EFFECTIVE DATE:** August 21, 1980.

**FOR FURTHER INFORMATION CONTACT:** Mr. James F. Foster, Department of Labor, OSHA, Office of Public Affairs, Third Street and Constitution Avenue, NW., Room N-3641, Washington, DC 20210 (202-523-8151). Copies of this document may be obtained at any time by request to the OSHA Office of Public Affairs at the address or telephone number listed above, or by contacting any OSHA regional or area office.

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The statement of reasons accompanying these regulations (the preamble) is divided into four parts, numbered I through IV. The following is a table of contents for this preamble:

- I. Introduction
- II. Pertinent Legal Authority
- III. Summary and Explanation of the Regulations
  - A. Paragraph (a)—*General policy.*
  - B. Paragraph (b)—*Scope and application.*
  - C. Paragraph (c)—*Responsible persons.*
  - D. Paragraph (d)—*Written access orders.*
  - E. Paragraph (e)—*Presentation of written access order and notice to employees.*
  - F. Paragraph (f)—*Objections concerning a written access order.*
  - G. Paragraph (g)—*Removal of direct personal identifiers.*
  - H. Paragraph (h)—*Internal agency use of personally identifiable medical information.*
  - I. Paragraph (i)—*Security procedures.*
  - J. Paragraph (j)—*Retention and destruction of records.*
  - K. Paragraph (k)—*Results of an agency analysis using personally identifiable employee medical information.*
  - L. Paragraph (l)—*Annual report.*
  - M. Paragraph (m)—*Inter-agency transfer and public disclosure.*
  - N. Paragraph (n)—*Effective date.*
- IV. Authority, Signature, and the Regulations

Part III is a provision-by-provision discussion of the regulations in lettered paragraphs corresponding to the lettered paragraphs of the regulations. It provides a brief summary of each provision and the evidence and rationale supporting it. References to the rulemaking record in the text of the preamble are in parentheses, and the following abbreviations have been used:

1. Ex. : Exhibit number to Docket H-112

2. Tr. : Transcript page number

These rules of agency practice and procedure are issued pursuant to sections 8(c)(1) and 8(g) of the Occupational Safety and Health Act of

1970 ("the Act") (84 Stat. 1599, 29 U.S.C. 657), section (e) of the Privacy Act (5 U.S.C. 552a(e)), and the government's general housekeeping statute (5 U.S.C. 301).

**A. Background**

The Occupational Safety and Health Administration (OSHA) has today published a final standard, 29 CFR 1910.20, governing access to employee exposure and medical records. Subparagraph (e)(3) of section 1910.20 provides for unconsented OSHA access to personally identifiable employee medical records. The need for OSHA access to employee medical records, and the decisionmaking involved in providing for unconsented OSHA access, are explained in the preamble accompanying 29 CFR 1910.20. The final regulations set forth below as § 1913.10 of 29 CFR establish agency procedures governing OSHA access to these records. These rules of agency practice and procedure serve to (1) control the circumstances under which OSHA seeks access to personally identifiable medical records, and (2) protect personally identifiable medical information once it has been obtained by the agency. These procedures are intended to preclude possible misuse of employee medical records, while at the same time enable medical record information to play a constructive role in agency efforts directed to the prevention of occupational injury and disease.

**B. History of the regulations**

These final regulations, 29 CFR 1913.10, have been developed in concert with the promulgation of 29 CFR 1910.20. 29 CFR 1910.20 was first published on July 19, 1978 (43 FR 31019) as an interim final rule. This rule required the indefinite retention of employee exposure and medical records, and required that these records be made available upon request to OSHA and to NIOSH (the National Institute for Occupational Safety and Health). This interim final rule was followed by a proposed rule published on July 21, 1978 (43 FR 31371) which proposed to expand 29 CFR 1910.20 to include employee and employee representative access to employee exposure and medical records, whether or not these records were subject to specific occupational safety and health standards. The proposed rule also set a definite minimal time period for the retention of these records. OSHA gave interested persons until September 22, 1978 to present written comments, views or arguments on any issue raised by the proposal. A total of 211 initial comments were received. Based on the



widespread interest evidenced by these comments, OSHA announced on October 6, 1978 (43 FR 46322) a schedule for public hearings on this proposal.

Hearings were held in Washington, DC from December 5-8, 1978 and from January 3-5, 1979; in Chicago, Illinois from December 12-13, 1978 and from January 9-10, 1979; and in San Francisco, California on December 15, 1978. A total of 85 individuals and organizations gave oral presentations, and the hearing transcript numbers 2542 pages.

OSHA has in the past exercised its authority to seek access to employee exposure and medical records as part of its regulatory and enforcement powers. For example, specific occupational safety and health standards have always provided for OSHA access to the records required by these standards. Nevertheless, inclusion of a general OSHA access provision in both the interim final rule and the proposed rule raised for public comment the question of the agency's policies and procedures governing access to, and use of, employee medical records. Numerous participants noted OSHA's lack of written procedures and policies concerning access to, and handling of, often highly sensitive medical information, and indicated that appropriate mechanisms protecting the confidentiality of accessed records should be developed (Cal. Dept. of Industrial Relations, Ex. 2(132), p. 3; National Commission on the Confidentiality of Health Records (NCCHR), Ex. 2(151), p. 2; Outboard Marine Corp., Ex. 2(183), pp. 6-8).

OSHA agreed with these concerns, and accordingly developed and made available for public comment draft administrative guidelines governing OSHA access to employee medical records. A copy of these draft guidelines was placed in the public rulemaking record (Docket No. H-112) of the proposed rule on November 24, 1978. OSHA official Grover Wrenn, in his opening statement at the December 5, 1978 hearings, announced the public availability of the guidelines (Tr. 15-16). On January 19, 1979, an additional public notice of the availability of the draft guidelines was published in the *Federal Register* (44 FR 3994). In that notice, OSHA gave the public until March 1, 1979, to comment on the draft guidelines. In addition, OSHA announced its intention to issue the final guidelines as regulations and to limit their scope to confidential medical information, and not apply them to trade secret information. On February 27, 1979 (44 FR 11096) the comment period was

extended to March 30, 1979. A total of 43 comments were received into a separate docket created to receive these comments (Docket No. H-112A). The regulations below are based on the total record in Dockets No. H-112 and H-112A and on the agency's experience and expertise.

## II. Pertinent Legal Authority

The legal authority for these procedural regulations is found in sections 8(c)(1) and 8(g)(2) of the Occupational Safety and Health Act ("The Act"), 29 U.S.C. 657; in section (e) of the Privacy Act, 5 U.S.C. 552a(e); and in 5 U.S.C. 301.

Section 8(c)(1) of the Act provides that:

[E]ach employer shall make, keep, preserve, and make available to the Secretary [of Labor] or the Secretary of Health, Education, and Welfare, such records regarding his activities relating to this Act as the Secretary, in cooperation with the Secretary of Health, Education, and Welfare, may prescribe by regulation as necessary or appropriate for the enforcement of this Act or for developing information regarding the causes and prevention of occupational accidents and illnesses.

Employee medical records are included within the type of records addressed by this provision.

Section 8(g)(2) is the general rulemaking authority of the Act and states that:

[T]he Secretary and the Secretary of Health, Education, and Welfare, shall each prescribe such rules and regulations as he may deem necessary to carry out their responsibilities under the Act, including rules and regulations dealing with the inspection of an employee's establishment.

These procedural regulations are deemed necessary to enable beneficial use of employee medical records consistent with the employee's right of privacy.

The Privacy Act, 5 U.S.C. 552a, imposes specific obligations on agencies to protect personally identifiable records within their possession. In particular, paragraphs (9) and (10) of section (e) of the Privacy Act require each agency that maintains a system of covered records to:

(9) establish rules of conduct for persons involved in the design, development, operation and maintenance of any system of records, or in maintaining any record, and instruct each such person with respect to such rules and the requirements of this section, including any other rules and procedures adopted pursuant to this section and the penalties for noncompliance; (and)

(10) establish appropriate administrative, technical, and physical safeguards to insure the security and confidentiality of records and to protect against any anticipated threats

or hazards to their security or integrity which could result in substantial harm, embarrassment, inconvenience, or unfairness to any individual on whom information is maintained. . . .

Part 70a of 29 CFR constitutes the Department of Labor's implementation of the Privacy Act. The regulations set forth below provide additional procedures with respect to personally identifiable employee medical information which OSHA seeks to examine or obtain.

Section 301 of 5 U.S.C. is the government's general "housekeeping" statute, and authorizes the promulgation of regulations of this nature. It provides:

The head of an Executive department or military department may prescribe regulations for the government of his department, the conduct of its employees, the distribution and performance of its business, and the custody, use, and preservation of its records, papers, and property. This section does not authorize withholding information from the public or limiting the availability of records to the public.

In addition, the agency has reviewed the provisions of the regulations pursuant to the National Environmental Policy Act of 1969 and Council on Environmental Quality Regulations (40 CFR Part 1500). The agency has determined that no significant environmental impact will result from the implementation of these rules.

## III. Summary and Explanation of the Regulations

The administrative rules of practice and procedure set forth below maintain the same structure and approach as the draft guidelines, but have been significantly refined in light of the record and the agency's evaluation of it. The provisions have been tailored to the way in which OSHA is structured, managed, and staffed, and would not necessarily be pertinent to any other Federal agency. In forming these procedures, the agency considered both the importance of protecting the right to personal privacy and the equally important interest in facilitating the beneficial use of medical record information. The resulting regulations represent, in OSHA's view, an appropriate balance between the two interests. It is appropriate to stress that OSHA has historically made only limited use of employee medical records, and this policy will not be changed by these regulations. These procedural regulations will govern those situations, primarily concerning employee exposure to toxic substances, where medical record information is highly relevant to, and sometimes crucial to, the agency's performance of

its statutory functions. As a result, these regulations will improve the agency's protection of personally identifiable information, but will not by themselves serve to expand agency attempts to seek use of this information.

#### A. Paragraph (a)—General policy

The final rule expands the "General Policy" section of the draft guidelines into two paragraphs, "General policy" and "Scope and application." Paragraph (a), General policy, notes the importance of both personal privacy and the value of medical records to OSHA's performance of statutory functions. The central constraints on OSHA access to personally identifiable medical information which are created by the regulations are then highlighted. These policies are implemented by the specific provisions which follow.

The final rule omits a waiver provision. The waiver clause of the draft guidelines was criticized by numerous participants as unjustified and as demonstrating a half-hearted agency commitment to personal privacy (USWA, Ex. 160, p.18; Belair (NCCHR), Tr. 1874; SOCMA, Ex. 167(9-36); ORC, Ex. 159, p. 2; National Steel Co., Ex. 157, p. 2; Borg-Warner Chemicals, Ex.167(9-22)). The agency originally included a waiver clause due to a concern that unforeseen emergency situations could arise where the literal application of the guidelines would frustrate accomplishment of statutory responsibilities. Having reconsidered the issue in view of these comments the agency deleted the provision. The agency is convinced that the final regulations can accommodate all access situations, even emergency situations where the quickest possible action is essential.

#### B. Paragraph (b)—Scope and application

Paragraph (b) defines the circumstances under which the procedural regulations will apply. Except as provided in paragraphs (b)(3)–(b)(6), the regulations apply to "all requests by OSHA personnel to obtain access to records in order to examine or copy personally identifiable employee medical information, whether or not pursuant to the access provisions of 29 CFR 1910.20(e)." The regulations thus establish the framework under which all agency efforts to examine records containing employee medical information are to be conducted.

The applicability of the regulations turns on the definition of what constitutes personally identifiable information. Subparagraph (b)(2) states as follows:

For the purposes of this section, "personally identifiable employee medical information" shall mean employee medical information accompanied by either direct identifiers (name, address, social security number, payroll number, etc.) or by information which could reasonably be used in the particular circumstances indirectly to identify specific employees (e. g., exact age, height, weight, race, sex, date of initial employment, job title, etc.).

This definition follows the recommendation of the American Medical Records Association (AMRA) (Ex. 82, pp. 1–2; *See also*, Birdbord (NIOSH), Ex. 22, p. 5), and explicitly acknowledges the fact that a wide variety of data can in certain situations be used indirectly to identify specific employees (Bierbaum (NIOSH), Tr. 506). These regulations establish procedures to limit access to only that data necessary to accomplish a statutory purpose. OSHA will on occasion need to consider the factors of age, sex, race, height, weight, duration of employment, place of birth, etc., to properly evaluate specific medical tests (Dr. Whorton, Ex. 11, p. 21, Tr. 299). Where this kind of information is reported in a fashion which could reasonably be used under the circumstances to identify specific employees, the information is treated no differently than when direct identifiers are attached. Conversely, where information cannot reasonably be used under the circumstances to identify specific employees, these regulations do not apply.

Subparagraph (b)(3), for the sake of clarity, excludes from the scope of the rule several forms of information which do not constitute "personally identifiable employee medical information." First, aggregate employee medical information and medical records on individual employees which are not in a personally identifiable form are excluded. Protection of the personal privacy of employees requires only that *personally identifiable* medical information be protected. Many employers periodically analyze the contents of employee medical records as a part of their occupational medical programs, and this practice is a sound one. Research studies, statistical analyses of raw medical data, and listings of biological monitoring results (stripped of identifiers) can be valuable tools in detecting, controlling, and preventing occupational disease. These devices do not impinge on the personal privacy expectations of any specific employee, and could not be used adversely against specific employees. They should be readily available upon request to public health agencies like OSHA.

Subparagraph (b)(3) also excludes the OSHA injury and illness log (29 CFR Part 1904), death certificates, and employee exposure records from coverage by these regulations. Biological monitoring test results treated by 29 CFR 1910.20(c)(5) or by specific occupational safety and health standards as exposure records are also excluded. These kinds of personal records may on occasion be of such significance that they should be treated with discretion and care (*See*, HRG, Tr. 2039–40, Ex. 2(161), p. 3, Ex. 167(9–40), pp. 1–2), and several participants recommended that at least exposure records should be covered by the administrative regulations (*Id.*; Phillips Petroelum Co., Ex. 167(9–23), p. 2; SOHIO, Ex. 167(9–29), p. 2). The agency, however, has not done so because (1) these documents may be already widely known within the workplace; (2) the privacy interests involved in these records are not of comparable magnitude to those involved in identifiable medical records; (3) these records are of such occupational health and safety importance and they will be so frequently used by various agency personnel that rigid approval and security procedures are both impractical and inappropriate; and (4) agency discretion and care can adequately protect whatever privacy interests apply to these records without having to impose these regulations.

By excluding employee exposure records, the language of subparagraph (b)(3) also serves to exclude trade secret information from coverage by these regulations. Although several participants urged that these administrative regulations apply to trade secrets (MCA, Ex. 167(9–38); DuPont, Ex. 167(41), p. 3), and the draft guidelines so provided (Ex. 167(2)), the agency believes that existing regulations and agency procedures are sufficient to protect trade secret information (*See*, 18 U.S.C. 1905; Section 15 of the Act, 29 U.S.C. 664; 29 CFR 1903.9; OSHA Field Operations Manual, Ex. 113). Attention has not been drawn by any participant to deficiencies of current agency procedures concerning trade secrets, and the agency sees no need to expand the scope of these administrative regulations beyond the privacy interests involved in personally identifiable medical records (*See*, HRG, Ex. 167(9–10), pp. 1–2; AFL–CIO, Ex. 152, pp. 60–61; USWA, Ex. 160, p. 17).

Subparagraphs (b)(4)–(b)(6) exclude three situations where agency access to personally identifiable employee medical information need not be regulated by all requirements of these

regulations. Subparagraph (b)(4) excludes situations where OSHA compliance personnel seeks to examine medical records for the sole purpose of verifying employer compliance with mandated recordkeeping requirements. All comprehensive OSHA health standards contain detailed medical surveillance programs with associated recordkeeping provisions (See, 29 CFR 1910.1001-1046). Access to medical records is necessary and appropriate to verify compliance with these requirements, as well as the requirements of 29 CFR 1910.20. No analysis is made of the medical content of the file; rather, the compliance officer checks to see that required data is present in the file. Since no personally identifiable medical information is either substantively reviewed or obtained, and no special qualifications are necessary to carry out this task, it is inappropriate to require the prior approval of the Assistant Secretary and the OSHA Medical Records Officer for these routine inquiries. The final regulations provide that these inquiries "shall be conducted on-site and, if requested, under the observation of the recordholder, and the OSHA compliance personnel shall not record and take off-site any information from medical records other than documentation of the fact of compliance or non-compliance."

Subparagraph (b)(5) excludes "agency access to, or the use of, personally identifiable employee medical information obtained in the course of litigation." These litigation situations, including post-citation discovery requests, will generally be controlled by attorneys in the Office of the Solicitor of Labor or the Department of Justice, and not by the Assistant Secretary. Traditional protective orders and other devices may in specific cases be needed to protect personal privacy, but this is a matter which is best handled through the rules of civil and criminal procedure, and may be the subject of further directives from the Solicitor of Labor.

Subparagraph (b)(6) excludes from these procedural regulations situations "where a written directive by the Assistant Secretary authorizes appropriately qualified personnel to conduct limited reviews of specific medical information mandated by an occupational safety and health standard, or of specific biological monitoring test results." OSHA envisions situations where appropriately trained field personnel should be authorized in general to conduct limited reviews of specific kinds of medical information. Some of this medical information could be part of

a medical surveillance program mandated by a specific occupational safety and health standard. Examples include hemoglobin and kidney function tests required under the OSHA lead standard (See, 29 CFR 1910.1025(j)(3)(ii)), as well as written medical opinions which under the lead standard can serve to initiate special health protection for employees (See, 29 CFR 1910.1025(j)(3)(v), (k)(1)(ii)). In other cases, agency access to specific biological monitoring tests may be extremely important to adequately investigate potential occupational health problems even though the biological monitoring tests were not mandated by existing standards. Possible examples include cholinesterase activity in the blood of pesticides workers, or pulmonary function testing of workers exposed to silica. OSHA may provide its professional personnel with the necessary training either to substantively evaluate these limited test results, or to initially screen them to identify possible problem areas for physicians or other more qualified personnel to review. The agency desires to maintain the flexibility generally to authorize these kinds of limited reviews of medical information, and this is best regulated by written directive by the Assistant Secretary. Where no written directive has been issued, however, these regulations apply.

Finally, subparagraph (b)(7) notes that, "Even if not covered by the terms of this section, all medically related information reported in a personally identifiable form shall be handled with appropriate discretion and care befitting all information concerning specific employees." Due to the personal privacy interests involved, attention is drawn to Freedom of Information Act and Privacy Act regulations (29 CFR 70.26 and 70a.3) which could enable the agency to preclude further disclosure of this information to the public once in the agency's possession. This language in subparagraph (b)(7) will build upon the care which OSHA has historically given to information from and concerning specific employees. Agency personnel protect this information not only due to the inherent privacy interests involved, but also due to other adverse consequences such as possible employment discrimination which could result from an employer's learning the identity of employee sources of information.

#### C. Paragraph (c)—Responsible persons

Paragraph (c), Responsible persons, highlights the special responsibilities of key OSHA personnel to the effectuation of these administrative regulations.

Paragraph (c) is largely a summary of duties established by other paragraphs, but is included to focus attention on the accountability of specific personnel. In this regard, the final regulations have been significantly modified from the draft guidelines. All references to the Director of Field Operations Coordination and a Document Control Officer have been deleted due to the judgment that these provisions added nothing meaningful to current internal agency management structures and responsibilities. OSHA expects that internal agency directives will be issued to add greater specificity to, and implementing mechanisms for, the requirements of these regulations. There is no need to include discussion of this in the body of the regulations, since internal directives already govern the manner in which the agency implements new policy (See, Ex. 190). Detailed provisions in the 'authorized employee' portion of the draft guidelines concerning who may have access to records, security of records, and agency contractors have also been deleted from the "Responsible persons" paragraph, and relocated elsewhere in the regulations.

Paragraph (c) of the final regulations emphasizes the responsibilities of the Assistant Secretary and the OSHA Medical Records Officer. Paragraph (a) indicates that these procedural regulations are based on two central principles. First, there should be a thorough review of all efforts to examine or copy personally identifiable employee medical information before the information is obtained; and second, personally identifiable information must be carefully protected once obtained. The Assistant Secretary is responsible for the overall administration and implementation of these principles. Several participants urged that the Assistant Secretary be personally involved in decisions to seek access to personally identifiable medical information (Weiner, Ex. 9A, p. 44; Stulberg (HRG), Tr. 2040; Seminario (AFL-CIO), Tr. 644; Nat. Steel Corp., Ex. 157, pp. 2-3; USWA, Ex. 160, p. 18; Continental Oil Co., Ex. 167(9-10), p. 2). Since the agency agrees that this involvement would be beneficial, the final regulations provide that the Assistant Secretary is the ultimate decisionmaker concerning requests for OSHA access to employee medical information subject to this section. As provided in the draft guidelines, the Assistant Secretary also makes final OSHA determinations concerning requests for inter-agency transfers or public disclosures of personally

identifiable employee medical information subject to this section.

The OSHA Medical Records Officer (MRO) has been given several key responsibilities in the final regulations. This official is to be designated by the Assistant Secretary and is to report directly to the Assistant Secretary on records access matters. The MRO must make recommendations to the Assistant Secretary on whether to approve or deny written access orders, and will serve as the central reviewer of the sufficiency of these documents and their supporting justifications (paragraph (d)). The MRO is also made responsible for responding to employee, collective bargaining agent, and employer objections to written access orders (paragraph (f)), regulating the use of direct personal identifiers (paragraph (g)), regulating the internal use and security of personally identifiable medical information (paragraphs (h)-(k)), assuring that the results of investigations are communicated to employees (paragraph (k)), preparing an annual report of OSHA's experience under this section (paragraph (1)), and assuring that advance notice is given of intended inter-agency transfers or public disclosures (paragraph (m)).

Similar to the draft guidelines, the final regulations state that the MRO shall be an "OSHA employee with experience or training in the evaluation, use, and privacy protection of medical records." Several participants urged that the position of MRO be limited to physicians, or that the necessary qualifications of the MRO be better defined (UAW, Ex. 165, p. 2; AMA, Ex. 167(9-12), pp. 2-3; Phillips Petroleum Co., Ex. 167(9-23), pp. 2-3; Shell Oil Co., Ex. 167(9-28), p. 3; Dow Chemical Co., Ex. 167(9-41), p. 5). The agency agrees that a senior official with a specialized background should occupy this sensitive position. The agency is not convinced, however, that only physicians could perform the duties of a MRO; thus the regulations are deliberately flexible.

The other person with key responsibilities in each instance of OSHA access to personally identifiable medical information is the person to be designated as the 'Principal OSHA Investigator'. The draft guidelines discussed the duties of an 'authorized employee,' but various participants pointed out that uncertainty existed as to who and how many individuals were responsible for using medical records and preserving their security (ORC, Ex. 159, p. 2; SOHIO, Ex. 167(9-29), p. 2; NIOSH, Ex. 167(9-37), p. 2; HRG, Ex. 167(9-40), pp. 2-3; Dow Corning Co., Ex. 167(9-41), p. 4). To clarify OSHA's

intent, the final regulations fix primary responsibility on the person designated as the Principal OSHA Investigator to assure that the examination and use of personally identifiable medical information is performed in the manner prescribed by these procedural regulations. Other paragraphs establish who else can have access to this medical information, and how the information is to be protected. No significance is attached by the final regulations on who initiated a request to review records. The Principal OSHA Investigator, however, must be professionally trained in medicine, public health or allied fields (epidemiology, toxicology, industrial hygiene, biostatistics, environmental health, etc.) when access is pursuant to a written access order. Several participants urged that this person's qualifications be better defined (Shell Oil Co., Ex. 167(9-28), p. 3; Mid-Atlantic Legal Foundation, Ex. 167(9-32), p. 2). Rather than attempt this in advance, the final regulations opt for a case-by-case assessment of each Principal OSHA Investigator's qualifications as part of the approval criteria for a written access order (*infra*).

#### D. Paragraph (d)—Written access orders

Paragraph (d), Written access orders, establishes the most formal administrative procedure by which OSHA will seek access to personally identifiable employee medical information. With the exception of two circumstances discussed at the end of the paragraph, "each request by an OSHA representative to examine or copy personally identifiable employee medical information contained in a record held by an employer or other recordholder shall be made pursuant to a written access order. \* \* \*

Subparagraph (d)(2) sets criteria to guide the exercise of the agency's discretion to seek access to identifiable medical information, and subparagraph (d)(3) sets forth the content of the written access order. To be valid, a written access order must be approved by the Assistant Secretary upon the recommendation of the OSHA Medical Records Officer. The approval process for a written access order is meant to assure management control over the exercise of OSHA's discretion, and has been structured in a fashion comparable to the approval process for an administrative subpoena. In practice, a written access order may constitute, or be accompanied by, an administrative subpoena.

Subparagraph (d)(2) establishes the substantive criteria which are to guide the Assistant Secretary's discretion in

approving written access orders. First, the Assistant Secretary and the MRO must consider whether the medical information to be examined or copied is "relevant to a statutory purpose and there is a need to gain access to this personally identifiable information." This is at face value less strict than the 'substantial need' requirement of the draft guidelines, and the recommendations of several participants that something more than mere relevance or need should be required (NCCHR, Ex. 2(151), p. 4, Belair (NCCHR), Tr. 1861, 1883; HRG, Ex. 2(161), p. 4; Shell Oil Co., Ex. 167(9-28), p. 4; SOHIO, Ex. 167(9-29), p. 1; SOCMA, Ex. 167(9-36), p. 8; MCA, Ex. 167(9-38), p. 30; Weiner, Ex. 9A, p. 44). Rather than establish rigid or more specific criteria, the final regulations permit case-by-case determinations by the Assistant Secretary and the MRO to assure that access is sought only where there is a genuine need to do so. OSHA believes that a finding of relevance and need by the agency's highest official is a sufficient safeguard against excessive use of the agency's authority to obtain access to personally identifiable employee medical information (*See*, NCCHR, Ex. 2(151), pp. 6-7; Dr. Wegman, Tr. 235; Dr. Whorton, Ex. 11, p. 18; Annas, Tr. 1752-54, 1757-58; Stulberg (HRG), Tr. 2040; USWA, Ex. 160, p. 18; SOCMA, Ex. 167(9-36), p. 8).

Subparagraph (d)(2) next states that consideration must be given to whether the personally identifiable medical information subject to the access order is "limited to only that information needed to accomplish the purpose for access." This will preclude governmental access to the kind of extraneous medical information which the agency can identify in advance as unnecessary to the purpose for access. This requirement follows suggestions that the agency define what medical information is sought, and limit the information sought to just that needed to accomplish the purpose for access (Privacy Commission, Ex. 101, p. 313 (Recommendation No. 11); AMA, Ex. 167(9-12), pp. 2-3; NCCHR, Ex. 2(151), pp. 4-6).

Subparagraph (d)(2) lastly states that the approval process will consider who will substantively review requested records and what their professional qualifications are. The agency's policy is that the personnel authorized to review and analyze the personally identifiable medical information will be "limited to those who have a need for access and have appropriate professional qualifications." As provided by subparagraph (d)(3), the written access

order must list those persons who are expected, at the time the order is written, to review substantively the requested medical information. Other persons, however, may be authorized to review the records at a later time if the need exists (*See infra*). The draft guidelines limited access to physicians or persons under the direct supervision of a physician and trained to evaluate information in medical records (Ex. 167(2), pp. 4, 5). Several participants endorsed these or similar limitations (Ass. Gen. Contractors of Iowa, Ex. 2(3); Cyanamid Co., Ex. 2(102); Dr. Whorton, Ex. 11, p. 18; Samuels (AFL-CIO IUD), Tr. 965-67; Biscuit & Cracker Mfr. Assn., Ex. 167(9-17), p. 2; Borg-Warner Corp., Ex. 167(9-22), p. 2). Having carefully considered the matter, the agency relaxed the language in the final regulations to permit a case-by-case evaluation of the qualifications of authorized reviewers. Without question, access should be limited on a need-to-know basis, and the regulations so provide (*See*, Weiner, Ex. 9A, pp. 45-6). But, the agency does not believe that every conceivable situation of OSHA access requires the direct personal supervision of a physician. Limited medical information like some biological monitoring tests can be easily reviewed and evaluated by a wide range of trained professionals such as epidemiologists, toxicologists, and industrial hygienists (Dr. Wegman, Tr. 245-48). It is to be anticipated that agency review of medical information will often be performed in consultation with agency staff or contract physicians; however, direct personal supervision by the physician will often be unnecessary. As a result, the final regulations permit a case-by-case determination of the qualifications of authorized reviewers.

Paragraph (d)(3) specifies the content of a written access order. The written access order will be presented to the employer and any collective bargaining agent when access is sought, and made available to employees by posting. The written access order is the prime vehicle for informing the employer and employees of the agency's actions and decisionmaking. As a result, the regulations require that the written access order state with reasonable particularity what is being requested and why (*See*, AMA, Ex. 167(9-12), p. 3); whether examination of this information will be conducted on-site and what will be removed off-site; who is authorized to review and analyze the information obtained; who is the OSHA Medical Records Officer; and how long will personally identifiable information likely be retained by the agency. These

matters need only be addressed with reasonable particularity, since absolute precision will often be impossible.

Paragraph (d)(4) establishes two special situations where a written access order need not be obtained for OSHA personnel to gain access to personally identifiable medical information. The first situation where a written access order is unnecessary concerns cases where the specific written consent of an employee is given for OSHA access to his or her medical record. This will occur in such situations as Section 11(c) investigations where the complainant's medical records must be reviewed, or where employees in the course of a complaint inspection desire to have an OSHA official review their medical records. Section 1910.20(e)(2)(ii) of 29 CFR provides the mechanism whereby an employee can release medical records to a designated representative through a specific written consent authorization. If the agency or an OSHA official is listed as a designated representative, then a written access order need not be obtained. Where personally identifiable medical information is received and taken off-site, however, a person must be promptly named to serve as a Principal OSHA Investigator to assure protection of the information, and the MRO notified of this person's identity. Thereafter, the personally identifiable medical information is subject to the use and security requirements of the remainder of the procedural regulations.

The second situation where a written access order need not be obtained concerns physician consultations. As OSHA has acquired staff and contract physicians, situations have arisen where an agency physician was sent to review and discuss a potential problem with an employer's plant physician or corporate medical director. This may be done at the request of the employer. These informal contacts will likely expand in the future. As part of such a professional interaction, employee medical records may be reviewed and discussed with a view towards determining whether a problem actually exists, and if so, what should be done about it. These informal physician contacts can avoid unnecessary full-fledged investigations and focus employer energies on early corrective action where problems are discovered. Until medical information is reviewed and discussed, neither OSHA nor the employer may be aware of the nature or extent of an occupational health problem. OSHA believes that these physician-to-physician contacts should be encouraged, and thus has exempted them from the requirement for

a written access order. The final regulations provide that "No employee medical records, however, shall be taken off-site in the absence of a written access order, and no notes of personally identifiable employee medical information made by the OSHA physician shall leave his or her control without the permission of the OSHA Medical Records Officer."

#### E. Paragraph (e)—Presentation of written access order and notice to employees

Paragraph (e) governs the mechanics of presenting a written access order to the employer and notifying employees of its existence. In practice, the written access order may constitute, or may be accompanied by, an administrative subpoena. As suggested, the final regulations provide that a copy of the written access order shall be provided to the employer (SOCMA, Ex. 167(9-36), p. 9; DuPont, Ex. 150, p. 18). An accompanying cover letter must also be provided which summarizes the requirements of this section and indicates that questions or objections concerning the written access order may be directed to the Principal OSHA Investigator or to the OSHA Medical Records Officer. Two copies of these documents must be provided so that one copy of each may be prominently posted as required by 29 CFR 1910.20(e)(3)(ii). The copy to be posted shall not identify specific employees by direct personal identifier (name, etc.). Posting at the workplace will serve to notify employees of what OSHA is doing with their medical records and why, and will let them know that they can lodge objections if they so desire. In addition, the regulations provide that a copy of these two documents shall be promptly provided "to each collective bargaining agent representing employees whose medical records are subject to the written access order." Union officials can be expected to communicate the nature of OSHA's actions to their members, and lodge objections or inquiries if any arise.

The draft guidelines provided for individual notice to employees by certified mail on each occasion that access was sought (Ex. 167(2), pp. 5-6). The final regulations delete this requirement due to the agency's judgment that individual notice would often be unnecessary and overly burdensome. As pointed out by several participants, the administrative and technical costs involved in individual notice are similar to those involved in seeking employee consent (HRG, Ex. 167(9-40), p. 4; NIOSH, Ex. 167(9-37), p. 2). Also, in most cases, posting and

notice to both the employer and union representatives will be fully adequate to inform all employees of OSHA's actions. One significant purpose for notifying employees is to assure that governmental actions are conducted openly to enable interested employees to scrutinize OSHA's actions and complain if they feel the agency is acting improperly. Individual notice to each and every employee will often not be necessary to accomplish this objective. The regulations do, however, contemplate that individual notice may be appropriate in some circumstances. To address this possibility, the regulations provide:

The Principal OSHA Investigator shall discuss with any collective bargaining agent and with the employer the appropriateness of individual notice to employees affected by the written access order. Where it is agreed that individual notice is appropriate, the Principal OSHA Investigator shall promptly provide to the employer an adequate number of copies of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to enable the employer either to individually notify each employee or to place a copy in each employee's medical file.

Employers have ready means available to distribute the written access order, such as with the next employee paycheck or at the beginning or end of a work shift. The regulations opt to use these vehicles to notify employees individually where there is mutual agreement of a need to do so.

#### F. Paragraph (f)—*Objections concerning a written access order*

Although OSHA does not believe that agency access to employee medical information should depend upon employee consent, OSHA recognizes that it is important that employee objections concerning OSHA access be carefully considered. Paragraph (f) provides that all written employee, collective bargaining agent, and employer objections shall be transmitted to the OSHA Medical Records Officer. Paragraph (l) provides that these objections be discussed in the MRO's annual report. The making of an objection by an employee, collective bargaining agent, or employer does not operate to postpone operation of the written access order. Unless the agency decides otherwise, access to the records shall proceed without delay notwithstanding the objection. Paragraph (f) mandates, however, that the MRO respond in writing to each employee's and collective bargaining agent's written objection concerning OSHA access. Because of an employer's different legal status and relationship to

the medical information, a written response to an employer objection is discretionary. A formal written response to the objection will enable a complete reconsideration of the written access order. OSHA recognizes that there may be situations where the agency made a mistake or proceeded on the basis of incomplete information such that the written access order should be revoked. The MRO is the appropriate person to make this decision. The final regulations therefore provide:

Where appropriate, the OSHA Medical Records Officer may revoke a written access order and direct that any medical information obtained by it be returned or destroyed. The Principal OSHA Investigator shall assure that the instructions of the OSHA Medical Records Officer are promptly implemented.

The draft guidelines also include (1) a waiting period after an access order was presented before OSHA would seek to examine requested records, (2) an automatic reconsideration procedure if an employer or employee objected to OSHA access, and (3) a commitment to treat employer refusals of access as a denial of the right of entry under *Marshall v. Barlow's, Inc.*, 436 U.S. 307 (1978) (Ex. 187(2), p. 6). With the exception of the required review by the OSHA Medical Records Officer of written objections by employees and collective bargaining agents, the final regulations do not mandate that these steps be followed in each case. The presumption of the regulations is that the agency will proceed without delay notwithstanding an objection, although OSHA retains the discretion not to proceed immediately. In the absence of a significant initial union, employee or employer objection, there would be little justification for a substantial waiting period. On the other hand, significant initial objections could cause OSHA to redefine, reaffirm, or withdraw its request for access before records are examined. The possible situations are so numerous and varied that OSHA does not believe it is advisable to limit in advance what the agency responses could be, or to create an explicit or implied obligation on the agency's part to automatically delay execution of a written access order. In light of *Marshall v. Barlow's, Inc.*, *supra*, OSHA also recognizes that its right of access to records may often not be directly enforceable absent a warrant or administrative subpoena. This is a rapidly evolving area of the law; thus it is not possible to state in advance precisely what legal recourse OSHA will seek if faced with a refusal to permit access.

#### G. Paragraph (g)—*Removal of direct personal identifiers*

Subparagraph (h)(5) of the regulations, *infra*, will serve to prevent the agency from unnecessarily obtaining and taking off-site medical information having direct personal identifiers. Where it is necessary to take direct personal identifiers off-site, there will likely be situations where the direct personal identifiers are not continuously needed to permit use of the medical information. For example, direct identifiers may only be needed to permit follow-up at the conclusion of evaluation of medical information. The draft guidelines gave no special protection to direct personal identifiers, but several participants recommended a system of stripping direct personal identifiers, coding the medical information and the direct personal identifiers with a unique code, and maintaining the list of coded personal identifiers apart from the coded medical information (AMRA, Ex. 82, pp. 4, 7, Tr. 2466-67; NCCHR, Ex. 2(151), p. 4, Tr. 1864, 1875-78; Dr. Givens (Cal. Med. Assn.), Tr. 1713-18; Sterling Drug Co., Ex. 167(9-18), p. 2). OSHA believes this to be a sound mechanism to maximize the protection of employee privacy and to minimize possible misuse of personally identifiable medical information. Paragraph (g) of the final regulations incorporates this approach.

Except as authorized by the MRO, direct personal identifiers (name, address, social security number, payroll number, etc.) must be promptly separated from medical information whenever direct identifiers are obtained and taken off-site pursuant to a written access order. The Principal OSHA Investigator is directed to code the medical information and the list of direct personal identifiers with a unique identifying number for each employee, and then hand deliver or mail the list of coded identifiers to the MRO. The MRO thereafter controls use and distribution of the list of coded identifiers to those with a need to know its contents. In addition, the numerically coded medical information is to be used and kept secured as though still in a directly identifiable form.

#### H. Paragraph (h)—*Internal agency use of personally identifiable employee medical information*

Paragraph (h) establishes who can have access to personally identifiable employee medical information once it is brought into the agency. Numerous participants favored limiting internal access to the smallest number of individuals possible (See, UAW, Ex. 165, p. 2; SOCMA, Ex. 167(9-36), p. 10; ORC,



Ex. 159, p. 2; Dow Chemical Co., Ex. 167(9-41), p. 4; Continental Oil Co., Ex. 167(9-10), p. 2; USWA, Ex. 160, pp. 18-19), although there was recognition that such personnel as supervised abstracters and clericals may have a need for access (NIOSH, Ex. 167(9-37), pp. 1-2; Weiner, Ex. 9A, p. 45; Dr. Whorton, Ex. 11, p. 19, Tr. 305; USWA, Ex. 160, pp. 18-19). The final regulations limit access to those with a need to know and appropriate qualifications, and fix responsibility on key officials to regulate all internal access.

Subparagraph (h)(1) provides that "The Principal OSHA Investigator shall in each instance of access be primarily responsible for assuring that personally identifiable employee medical information is used and kept secured in accordance with this section." Clear accountability is thus primarily fixed on one person in each instance of access for assuring that, in practice, medical information is properly used and kept secured (See, Ex. 167(2), p. 4).

Subparagraph (h)(2) regulates who has the authority to permit the examination and use of personally identifiable employee medical information. The Principal OSHA Investigator, the OSHA Medical Records Officer, the Assistant Secretary, and any other authorized person listed on a written access order are the only individuals who can permit the examination of the information. They are responsible for assuring that, in addition to those listed on the written access order, no one is permitted to examine or use this information other than agency employees and contractors who have a need for access and appropriate qualifications for the purpose for which they are using the information. No OSHA employee or contractor is authorized to examine or otherwise use this information unless so permitted. This need-to-know criterion is necessarily flexible so that supervised clerical and other similar uses are not categorically forbidden, but at the same time the criteria is meant to preclude unauthorized and unsupervised access. The draft guidelines contained a similar need-to-know requirement (Ex. 167(2), p. 7).

As was the case with the draft guidelines (Ex. 167(2), p. 4), the final regulations permit access by attorneys in the Office of the Solicitor of Labor and by independent agency contractors on a need-to-know basis. In most instances, the only contractors having a need for access to personally identifiable medical information would be contract physicians, who already would be under legal and ethical

obligations to protect confidential medical information. Where other contractors are permitted to use this information, they must contractually agree to abide by the requirements of this section and any implementing agency directives and instructions (See, Dr. Wegman, Tr. 236-37; Bridbord (NIOSH), Ex. 22, p. 6; NIOSH, Ex. 107D).

Subparagraph (h)(4) provides that "OSHA employees and contractors are only authorized to use personally identifiable employee medical information for the purposes for which it was obtained, unless the specific written consent of an employee is obtained as to a secondary purpose, or the procedures of paragraphs (d)-(g) of this section are repeated with respect to the secondary purpose." This provision serves to preclude secondary agency uses of personally identifiable employee medical information (See, NCCHR, Ex. 58, p. 46; Ex. 167(2), p. 7), unless a new written access order is obtained, or employees consent to a new use.

Finally, subparagraph (h)(5) provides that "Whenever practicable, the examination of personally identifiable employee medical information shall be performed on-site with a minimum of personally identifiable medical information to be taken off-site." No similar requirement was in the draft guidelines, but the agency felt it was beneficial to add this provision. Unlike the case with NIOSH or other research agencies, OSHA anticipates that it will not normally be necessary for OSHA to microfilm or otherwise copy entire medical records and then later abstract relevant information. The requirement that a minimum of personally identifiable medical information be taken off-site also recognizes that OSHA access to identifiable records may sometimes be for the sole purpose of stripping identifiers so that all medical information obtained is not in a directly identifiable form. Where this can reasonably be performed on-site, OSHA will do so.

#### L Paragraph (i)—Security procedures

Paragraph (i) of the final regulations establishes security procedures to govern internal agency use of personally identifiable employee medical information. As was the case with the draft guidelines (Ex. 167(2), p. 7), the final regulations provide for segregation of agency files containing this information, and require that these agency files be kept secured in a locked cabinet or vault when not in active use (See, Dow Chemical Co., Ex. 167(9-14), p. 6). The OSHA Medical Records Officer and the Principal OSHA Investigator are each required to

maintain a log of uses and transfers of this medical information and lists of coded direct personal identifiers, except as to necessary uses by staff under their direct personal supervision (See, Ex. 167(2), p. 7; Dow Chemical Co., Ex. 167(9-41), p. 6; NIOSH, Ex. 167(9-37), p. 3). As was the case with the draft guidelines (Ex. 167(2), p. 8), the final regulations permit photocopying of covered records, but all forms of duplication "shall be kept to the minimum necessary to accomplish the purposes for which the information was obtained." The final regulations also recognize that agency personnel may create worksheets or other similar documents which contain personally identifiable employee medical information. In light of this, subparagraph (i)(4) provides that all protective measures established by this section apply to these worksheets, as well as duplicate copies or other agency documents containing personally identifiable employee medical information.

Finally, subparagraph (i)(5), as was the case in the draft guidelines, stipulates that intra-agency transfers of personally identifiable employee medical information must be by hand delivery, United States mail, or equally protective means, and not by inter-office mailing channels (Ex. 167(2), p. 7).

The final regulations omit provisions concerning computerized records or supplemental security procedures (Ex. 167(2), p. 8) since (1) OSHA does not currently contemplate situations where OSHA would computerize personally identifiable medical information, and (2) supplemental security procedures do not depend on any authorizing language in these regulations. Additional directives on the security of personally identifiable employee medical information will be issued as needed.

#### J. Paragraph (j)—Retention and destruction of records

The draft guidelines provided for early destruction of personally identifiable information when the original purposes for access had been accomplished (Ex. 167(2), p. 8). Several participants urged that this information not be retained any longer than necessary (Mobay Chemical Corp., Ex. 2(97), p. 5; HRC, Ex. 2(161), p. 4; Stulberg (HRC), Tr. 2041; DuPont, Ex. 150, pp. 19-20; Dow Chemical Co., Ex. 167(9-41), p. 6). OSHA agrees that personally identifiable information (including lists of coded direct personal identifiers) should be destroyed or returned to the original recordholder when no longer needed for the purposes for which it was obtained. The final regulations so

provide in subparagraph (k)(1), subject to applicable agency records disposition programs. OSHA, as are other Federal agencies, is subject to several statutes and implementing regulations governing the disposal of records received in connection with the transaction of public business (See, 44 U.S.C. 2901-3324; 41 CFR 101-11.4). The agency has a formal records disposition program which may need to be modified to facilitate early destruction of personally identifiable medical information, and the agency intends to pursue this during the implementation of the procedural regulations.

OSHA can contemplate situations where personally identifiable medical information, after its initial utility, need not be used again until some time in the future. For example, medical information upon which a citation is based may be used during the hearing stage of an enforcement case. The medical information may not be utilized while the case is on appeal, but there may be a need for the information if the case is remanded for further proceedings. Similarly, an investigation of an apparently new health hazard may produce uncertain results. Before completely closing out this investigation, it may be appropriate to await the outcome of an ongoing research study or parallel investigation elsewhere in the country. In these cases, the regulations provide that the medical information is to be transferred to the OSHA Medical Records Officer. And, as suggested by one participant (Nat. Steel Corp., Ex. 165, p. 3), the MRO is directed to "conduct an annual review of all centrally-held information for the purpose of determining which information is no longer needed for the purposes for which it was obtained."

**K. Paragraph (k)—Results of an agency analysis using personally identifiable employee medical information**

The draft guidelines were silent on the issue of individual notification to employees of the results of OSHA analyses using personally identifiable employee medical information. Several participants urged that individual notice to each employee should be incorporated in the procedural regulations (DuPont Co., Ex. 150, p. 22; Dr. Whorton, Ex. 11, pp. 18-19; NIOSH, Ex. 167 (9-37), p. 2). In many cases, employees will learn the results of an OSHA investigation through a closing conference or informal post-inspection conference with union representatives, through the posting of a citation, or by calling the relevant OSHA Area Office. In other kinds of investigations similar to a NIOSH Health Hazard Evaluation

or Field Study where disease is diagnosed in specific employees, individual notification might be essential (See, 41 CFR 85.11, 85a.8; Ex. 20, 21). OSHA believes that it is best to permit a case-by-case consideration of the need for individual notification. Accordingly, the final regulations provide that "The OSHA Medical Records Officer shall, as appropriate, assure that the results of an agency analysis using personally identifiable employee medical information are communicated to the employees whose personal medical information was used as part of the analysis."

**L. Paragraph (1)—Annual report**

The draft guidelines provided for a semi-annual report by the OSHA Medical Records Officer to the Assistant Secretary concerning OSHA's medical records access experience (Ex. 167 (2), p. 3). The final regulations continue this requirement in paragraph (1), but changes it to an annual report. The report must be made available to the public, and must discuss the number of written access orders and their purposes, the nature and disposition of employee, collective bargaining agent, and employer written objections, and the nature and disposition of requests for inter-agency transfer or public disclosure of personally identifiable employee medical information. This annual report will serve to focus the attention of the Assistant Secretary and interested members of the public on OSHA's use of personally identifiable employee medical information.

**M. Paragraph (m)—Inter-agency transfer and public disclosure**

The draft guidelines contained limitations on inter-agency sharing and public disclosure of employee medical records (Ex. 167 (2), pp. 8-11). Several participants argued that personally identifiable employee medical information should practically never be shared or disclosed without employee consent, even for public health purposes (HRG, Ex. 2 (161), p. 4, Tr. 2041, Ex. 167 (9-40), pp. 3-4; NCCHR, Ex. 2 (151), p. 8; Continental Oil Co. Ex. 167 (9-10), p. 2; Caterpillar Tractor Co., Ex. 167 (9-21), p. 3; SOHIO, Ex. 167 (9-29), p. 2). Other participants could accept strictly controlled inter-agency sharing for public health purposes (Weiner, Ex. 9A, p. 45; USWA, Ex. 160, p. 18; AMA, Ex. 167 (9-12), pp. 4-5). All participants, however, were concerned that personally identifiable medical information not be shared or disclosed in a manner which could adversely affect subject employees (Becker

(USWA), Tr. 2390; Belair (NCCHR), Tr. 1862-63, NCCHR, Ex. 2 (151), pp. 2, 8).

OSHA agrees that inter-agency transfer and public disclosure of medical information should be carefully controlled, and paragraph (m) governs these issues. Inter-agency transfer and public disclosure are not categorically forbidden by the final regulations, however, because (1) the agency may not legally make such a commitment, and (2) situations may arise where transfer or disclosure is appropriate. Situations could conceivably arise where OSHA as a matter of law was compelled to transfer information to another agency or disclose it to a non-governmental individual. An example might be a General Accounting Office investigation, or where there is a compelling public interest in disclosure of medical information to which no significant privacy expectation attaches (e.g., cause of death). The final regulations establish strict criteria as to when inter-agency transfer or public disclosure of personally identifiable employee medical information may occur. Except when required by law, all inter-agency transfer or public disclosure of this information must be approved by the Assistant Secretary in accordance with these criteria. OSHA employees may, however, transfer or disclose aggregate employee medical information or medical information on individual employees which is not in a personally identifiable form.

Subparagraph (m)(2) governs the approval of an inter-agency transfer of personally identifiable employee medical information which has not been consented to by affected employees. First, transfer will only be permitted to a public health agency (such as EPA, CPSC, FDA, etc.) for a substantial public health purpose. Second, the recipient agency must have a demonstrable need for the medical information in a personally identifiable form. Third, the recipient agency may not use the requested information to make individual determinations concerning affected employees which could be to their detriment. Fourth, the recipient agency must have regulations or established written procedures which provide protection to privacy interests substantially equivalent to that of OSHA's procedures. And fifth, the requested transfer must satisfy an exemption to the Privacy Act to the extent that the Privacy Act applies to the requested information.

These five limitations on inter-agency transfer follow several of the suggestions of rulemaking participants. Since OSHA collects medical



information only for a public health purpose, it is appropriate to restrict all subsequent discretionary agency transfers to those with an equally clear public health purpose. The recipient agency's privacy protections must be as protective as OSHA's, but are not required to be identical since agencies vary significantly in their management structures and modes of operation. Unlike the draft guidelines, the final regulations attach no special status to an agency memorandum of understandings (USWA, Ex. 160, pp. 18-19; SOCMA, Ex. 167(9-36), p. 2; HRG, Ex. 167(9-40), pp. 4-5). This form of formal agreement may in specific cases satisfy several of the five criteria for approval of inter-agency sharing, but OSHA believes it to be important to consider each request for inter-agency transfer individually rather than as part of some comprehensive agreement.

The fifth and last limitation on inter-agency transfer concerns the Privacy Act, which would protect personally identifiable medical information which is part of a "system of records" as defined in paragraph (a)(5) of that Act (5 U.S.C. 552a(a)(5); 29 CFR 70a.2). The Privacy Act prohibits inter-agency transfers of covered records unless one of several exemptions is met (5 U.S.C. 552a(b), 29 CFR 70a.3). The two exemptions which could most likely pertain to employee medical information held by OSHA would be exemption (7) governing civil and criminal law enforcement, and exemption (8) governing compelling circumstances affecting the health or safety of an individual (5 U.S.C. 552a(b)(7), (8); 29 CFR 70a.3(e)(vii), (xi)). Thus, unless one of these two narrow exemptions is met, the Privacy Act where applicable serves to further prevent the discretionary inter-agency transfer of personally identifiable employee medical information. To the extent that the Privacy Act does not apply to a particular record covered by these regulations, the Assistant Secretary could share that information with another Federal agency without regard to the Privacy Act exceptions. The four preceding limitations would apply to the transfer, however.

Subparagraph (m)(3) contains two exceptions to the requirements of subparagraph (m)(2). First, upon the approval of the Assistant Secretary, personally identifiable employee medical information may be shared with NIOSH. NIOSH is a sister public health agency to OSHA and its research activities complement OSHA's regulatory responsibilities. The two agencies are increasingly attempting to

coordinate their activities and maintain close professional staff contacts. OSHA's ability to analyze employee medical information will often be improved by gaining NIOSH's assistance, and medical information collected by OSHA for one purpose may have major research value to NIOSH. Subparagraph (m)(3) is meant to permit sharing medical information with NIOSH in these circumstances. In the judgment of OSHA, NIOSH has, due to its frequent use of medical records, developed and demonstrated appropriate sensitivity to the privacy interests involved with employee medical records. As a result, identifiable medical information may be transferred to NIOSH upon the approval of the Assistant Secretary, without further inquiry into the sufficiency of their programs for protecting medical records.

Subparagraph (m)(3) also permits, upon the approval of the Assistant Secretary, the inter-agency transfer of personally identifiable employee medical information to the Department of Justice when necessary with respect to a specific action under the Occupational Safety and Health Act. For example, the Justice Department prosecutes criminal violations of the Act (See, s17(e)-(h), 29 U.S.C. 666) as well as civil penalty collection actions (See, Section 17(1), 29 U.S.C. 666(k)). The Justice Department also represents OSHA in Freedom of Information Act (FOIA) suits. Personally identifiable employee medical information may, on occasion, be relevant to these proceedings, and OSHA must necessarily share this information in these circumstances. While medical information obtained in the course of litigation is already exempt from these regulations, this additional language makes it clear that medical information collected for other purposes, but which becomes necessary for litigation in which the Department of Justice is involved, may be transferred to the Department.

Subparagraphs (m)(4) and (5) govern public disclosure of personally identifiable employee medical information which has not been consented to by affected employees. Exemption (6) of the Freedom of Information Act (FOIA) authorizes OSHA to withhold personally identifiable information where its disclosure would constitute a clearly unwarranted invasion of personal privacy (5 U.S.C. 552(b)(6)). The Department of Labor's implementing regulations broadly construes this exemption and treats medical records as presumptively non-disclosable (29 CFR

70.26). It is OSHA's judgment that where identifiable medical records are concerned, disclosure will necessarily impede OSHA's functions. OSHA's access to necessary medical information depends on protecting personal privacy, and OSHA's overall success as a public agency depends on employee and public confidence in the agency's discharge of its functions in a manner sensitive to individual rights. These considerations dictate that identifiable medical information not be disclosed absent compelling circumstances, even though the Department of Labor's FOIA regulations otherwise encourage the release of exempt information where disclosure will not impede the discharge of agency functions (29 CFR 70.11(b)).

Accordingly, subparagraph (m)(4) provides that "The Assistant Secretary shall not approve a request for public disclosure of employee medical information containing direct personal identifiers unless there are compelling circumstances affecting the health or safety of an individual." The "compelling circumstances" exception is meant to be extremely limited in nature, and parallels exemption (8) of the Privacy Act (5 U.S.C. 552a(b)(8); 29 CFR 70a.3(e)(xi)). In addition, subparagraph (m)(5) concerns employee medical information which contains information which could reasonably be used indirectly to identify specific employees, and provides that this shall not be disclosed to the public if to do so would constitute a clearly unwarranted invasion of personal privacy. Together, these subparagraphs express OSHA's intent to deny requests for public disclosure of personally identifiable employee medical information, unless there are compelling countervailing circumstances relating to health and safety.

Subparagraph (m)(6) governs the issue of notice when OSHA intends to transfer personally identifiable employee medical information to another agency or disclose it to a member of the public other than to an affected employee. The draft guidelines provided for written notice to the employer and to affected employees (Ex. 167(2), pp. 9, 10). Several participants stressed the importance of notice (Sterling Drug Co., Ex. 167(9-18), p. 1; Phillips Petroleum Co., Ex. 167(9-23), p. 2; Shell Oil Co., Ex. 167(9-28), p. 4; SOHIO, Ex. 167(9-29), p. 2; MCA, Ex. 167(9-38); p. 31; Dow Chemical Co., Ex. 167(9-41), p. 7. The final regulations delete the rigid time requirements of the draft guidelines, but provide that the OSHA Medical Records Officer shall assure that advance notice is provided

to any collective bargaining agent representing affected employees and to the employer, except with respect to transfers to NIOSH or to the Department of Justice. Where the intended inter-agency transfer or public disclosure contains direct personal identifiers, the OSHA Medical Records Officer must also, when feasible, take reasonable steps to assure that affected employees are notified. In the case of release of information pursuant to exemption (8) of the Privacy Act, the Act itself requires notification of individuals upon the disclosure.

As a final matter, several participants urged that the final regulations explicitly discuss penalties to be assessed against OSHA employees who violate these regulations (AMRA, Ex. 82, pp. 4-5; API, Ex. 158, p. 42; Ohio Bldg. Chpt., Ex. 167(9-3), p. 1; SOCMA, Ex. 167(9-36), p. 5; HRG, Ex. 167(9-40), p. 5; Dow Chemical Co., Ex. 167(9-41), p. 4.) The draft guidelines contained no provisions on this topic, and having considered the matter, the agency declined to explicitly address this topic in the final regulations.

OSHA agrees that agency employees must be made aware of these regulations, and that public confidence in OSHA will depend on strict enforcement of these regulations. It is not necessary, however, that penalty procedures be discussed in the regulations. All Department of Labor employees are given an "Employee Handbook" (Ex. 191). Chapter 23 of this handbook, "Standards of Conduct," briefly discusses the Department's longstanding regulations governing employee conduct (Ex. 191, P. 55). These ethics and conduct regulations are given to new employees, and each current employee is reminded of them on an annual basis (29 CFR 0.735-2(b); Ex. 191, p. 81). These regulations provide:

Failure of an employee to comply with any of the standards of conduct set forth in this part shall be a basis for such disciplinary or other remedial action as may be appropriate to the particular case. (29 CFR 0.735-3(a); Ex. 191, p. 81)

Employees may not, except with specific permission . . . directly or indirectly use or allow the use of official information for private purposes or to further a private interest when such information is not available to the general public; nor may employees disclose official information in violation of any applicable law, Executive order, or regulation. (29 CFR 0.735-8; Ex. 191, p. 83)

The effectiveness of the Department of Labor in serving the public interest depends upon the extent to which the Department and its employees hold the public confidence. Employees are therefore required not only to observe the requirements of Federal laws,

policies, orders, and regulations governing official conduct, they must also avoid any apparent conflict with these requirements. (29 CFR 0.735-4(a); Ex. 191, pp. 81-82)

These existing provisions, in conjunction with Office of Personnel Management and Department of Labor procedures for disciplinary actions, are adequate to deal with misuse of employee medical records by OSHA employees. Other forms of punishment, such as criminal penalties beyond the existing criminal provisions of the Privacy Act, are matters for Congress to address (See, HRG, Ex. 2(161), pp. 4-5).

#### IV. Authority, Signature, and the Regulations

This document was prepared under the direction of Eula Bingham, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210.

The Federal Register has been requested to officially file this document at 1 p.m. E.D.T. on May 21, 1980, which shall be the time of issuance of this document as provided by 29 CFR 1911.18. The time of issuance is the earliest moment that petitions for judicial review may be filed.

Accordingly, pursuant to sections 8(c) and 8(g) of the Occupational Safety and Health Act of 1970 (84 Stat. 1599, 1600; 29 U.S.C. 657), Section (e) of the Privacy Act (5 U.S.C. 552a(e)), and the government's general housekeeping statute (5 U.S.C. 301), Chapter XVII of Title 29, the Code of Federal Regulations, is hereby amended by adding a new Part 1913.

Signed at Washington, D.C., this 14th day of May, 1980.

Eula Bingham,

Assistant Secretary of Labor.

A new Part 1913 is added to Title 29 of the Code of Federal Regulations (CFR), consisting of §1913.10, reading as follows:

#### PART 1913—RULES OF AGENCY PRACTICE AND PROCEDURE CONCERNING OSHA ACCESS TO EMPLOYEE MEDICAL RECORDS

Sec.

1913.10 Rules of agency practice and procedure concerning OSHA access to employee medical records.

Authority: Secs. 8(c) and 8(g) (84 Stat. 1599, 1600; 29 U.S.C. 657), section (e) of the Privacy Act (88 Stat. 1899, 1900; 5 U.S.C. 552a(e)), and 5 U.S.C. 301 (80 Stat. 379).

§ 1913.10 Rules of agency practice and procedure concerning OSHA access to employee medical records.

(a) General policy. OSHA access to employee medical records will in certain

circumstances be important to the agency's performance of its statutory functions. Medical records, however, contain personal details concerning the lives of employees. Due to the substantial personal privacy interests involved, OSHA authority to gain access to personally identifiable employee medical information will be exercised only after the agency has made a careful determination of its need for this information, and only with appropriate safeguards to protect individual privacy. Once this information is obtained, OSHA examination and use of it will be limited to only that information needed to accomplish the purpose for access. Personally identifiable employee medical information will be retained by OSHA only for so long as needed to accomplish the purpose for access, will be kept secure while being used, and will not be disclosed to other agencies or members of the public except in narrowly defined circumstances. This section establishes procedures to implement these policies.

(b) Scope and application. (1) Except as provided in paragraphs (b)(3)-(b)(6) below, this section applies to all requests by OSHA personnel to obtain access to records in order to examine or copy personally identifiable employee medical information, whether or not pursuant to the access provisions of 29 CFR 1910.20(e).

(2) For the purposes of this section, "personally identifiable employee medical information" means employee medical information accompanied by either direct identifiers (name, address, social security number, payroll number, etc.) or by information which could reasonably be used in the particular circumstances indirectly to identify specific employees (e.g., exact age, height, weight, race, sex, date of initial employment, job title, etc.).

(3) This section does not apply to OSHA access to, or the use of, aggregate employee medical information or medical records on individual employees which is not in a personally identifiable form. This section does not apply to records required by 29 CFR Part 1904, to death certificates, or to employee exposure records, including biological monitoring records treated by 29 CFR 1910.20(c)(5) or by specific occupational safety and health standards as exposure records.

(4) This section does not apply where OSHA compliance personnel conduct an examination of employee medical records solely to verify employer compliance with the medical surveillance recordkeeping requirements of an occupational safety and health standard, or with 29 CFR 1910.20. An

examination of this nature shall be conducted on-site and, if requested, shall be conducted under the observation of the recordholder. The OSHA compliance personnel shall not record and take off-site any information from medical records other than documentation of the fact of compliance or non-compliance.

(5) This section does not apply to agency access to, or the use of, personally identifiable employee medical information obtained in the course of litigation.

(6) This section does not apply where a written directive by the Assistant Secretary authorizes appropriately qualified personnel to conduct limited reviews of specific medical information mandated by an occupational safety and health standard, or of specific biological monitoring test results.

(7) Even if not covered by the terms of this section, all medically related information reported in a personally identifiable form shall be handled with appropriate discretion and care befitting all information concerning specific employees. There may, for example, be personal privacy interests involved which militate against disclosure of this kind of information to the public (*See*, 29 CFR 70.26 & 70a.3).

(c) *Responsible persons.* (1) *Assistant Secretary.* The Assistant Secretary of Labor for Occupational Safety and Health (Assistant Secretary) shall be responsible for the overall administration and implementation of the procedures contained in this section, including making final OSHA determinations concerning:

(i) Access to personally identifiable employee medical information (paragraph (d)), and

(ii) Inter-agency transfer or public disclosure of personally identifiable employee medical information (paragraph (m)).

(2) *OSHA Medical Records Officer.* The Assistant Secretary shall designate an OSHA official with experience or training in the evaluation, use, and privacy protection of medical records to be the OSHA Medical Records Officer. The OSHA Medical Records Officer shall report directly to the Assistant Secretary on matters concerning this section and shall be responsible for:

(i) Making recommendations to the Assistant Secretary as to the approval or denial of written access orders (paragraph (d)),

(ii) Assuring that written access orders meet the requirements of paragraphs (d)(2) and (d)(3) of this section,

(iii) Responding to employee, collective bargaining agent, and

employer objections concerning written access orders (paragraph (f)),

(iv) Regulating the use of direct personal identifiers (paragraph (g)),

(v) Regulating internal agency use and security of personally identifiable employee medical information (paragraphs (h)-(j)),

(vi) Assuring that the results of agency analyses of personally identifiable medical information are, where appropriate, communicated to employees (paragraph (k)),

(vii) Preparing an annual report of OSHA's experience under this section (paragraph (l)), and

(viii) Assuring that advance notice is given of intended inter-agency transfers or public disclosures (paragraph (m)).

(3) *Principal OSHA Investigator.* The Principal OSHA Investigator shall be the OSHA employee in each instance of access to personally identifiable employee medical information who is made primarily responsible for assuring that the examination and use of this information is performed in the manner prescribed by a written access order and the requirements of this section (paragraphs (d)-(m)). When access is pursuant to a written access order, the Principal OSHA Investigator shall be professionally trained in medicine, public health, or allied fields (epidemiology, toxicology, industrial hygiene, biostatistics, environmental health, etc.).

(d) *Written access orders.* (1) *Requirement for written access order.* Except as provided in paragraph (d)(4) below, each request by an OSHA representative to examine or copy personally identifiable employee medical information contained in a record held by an employer or other recordholder shall be made pursuant to a written access order which has been approved by the Assistant Secretary upon the recommendation of the OSHA Medical Records Officer. If deemed appropriate, a written access order may constitute, or be accompanied by, an administrative subpoena.

(2) *Approval criteria for written access order.* Before approving a written access order, the Assistant Secretary and the OSHA Medical Records Officer shall determine that:

(i) The medical information to be examined or copied is relevant to a statutory purpose and there is a need to gain access to this personally identifiable information,

(ii) The personally identifiable medical information to be examined or copied is limited to only that information needed to accomplish the purpose for access, and

(iii) The personnel authorized to review and analyze the personally identifiable medical information are limited to those who have a need for access and have appropriate professional qualifications.

(3) *Content of written access order.* Each written access order shall state with reasonable particularity:

(i) The statutory purposes for which access is sought,

(ii) A general description of the kind of employee medical information that will be examined and why there is a need to examine personally identifiable information,

(iii) Whether medical information will be examined on-site, and what type of information will be copied and removed off-site,

(iv) The name, address, and phone number of the Principal OSHA Investigator and the names of any other authorized persons who are expected to review and analyze the medical information.

(v) The name, address, and phone number of the OSHA Medical Records Officer, and

(vi) The anticipated period of time during which OSHA expects to retain the employee medical information in a personally identifiable form.

(4) *Special situations.* Written access orders need not be obtained to examine or copy personally identifiable employee medical information under the following circumstances:

(i) *Specific written consent.* If the specific written consent of an employee is obtained pursuant to 29 CFR 1910.20(e)(2)(ii), and the agency or an agency employee is listed on the authorization as the designated representative to receive the medical information, then a written access order need not be obtained. Whenever personally identifiable employee medical information is obtained through specific written consent and taken off-site, a Principal OSHA Investigator shall be promptly named to assure protection of the information, and the OSHA Medical Records Officer shall be notified of this person's identity. The personally identifiable medical information obtained shall thereafter be subject to the use and security requirements of paragraphs (h)-(m) of this section.

(ii) *Physician consultations.* A written access order need not be obtained where an OSHA staff or contract physician consults with an employer's physician concerning an occupational safety or health issue. In a situation of this nature, the OSHA physician may conduct on-site evaluation of employee medical records in consultation with the

employer's physician, and may make necessary personal notes of his or her findings. No employee medical records, however, shall be taken off-site in the absence of a written access order or the specific written consent of an employee, and no notes of personally identifiable employee medical information made by the OSHA physician shall leave his or her control without the permission of the OSHA Medical Records Officer.

(e) *Presentation of written access order and notice to employees.* (1) The Principal OSHA Investigator, or someone under his or her supervision, shall present at least two (2) copies each of the written access order and an accompanying cover letter to the employer prior to examining or obtaining medical information subject to a written access order. At least one copy of the written access order shall not identify specific employees by direct personal identifier. The accompanying cover letter shall summarize the requirements of this section and indicate that questions or objections concerning the written access order may be directed to the Principal OSHA Investigator or to the OSHA Medical Records Officer.

(2) The Principal OSHA Investigator shall promptly present a copy of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to each collective bargaining agent representing employees whose medical records are subject to the written access order.

(3) The Principal OSHA Investigator shall indicate that the employer must promptly post a copy of the written access order which does not identify specific employees by direct personal identifier, as well as post its accompanying cover letter (*See*, 29 CFR 1910.20(e)(3)(ii)).

(4) The Principal OSHA Investigator shall discuss with any collective bargaining agent and with the employer the appropriateness of individual notice to employees affected by the written access order. Where it is agreed that individual notice is appropriate, the Principal OSHA Investigator shall promptly provide to the employer an adequate number of copies of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to enable the employer either to individually notify each employee or to place a copy in each employee's medical file.

(f) *Objections concerning a written access order.* All employee, collective bargaining agent, and employer written objections concerning access to records

pursuant to a written access order shall be transmitted to the OSHA Medical Records Officer. Unless the agency decides otherwise, access to the records shall proceed without delay notwithstanding the lodging of an objection. The OSHA Medical Records Officer shall respond in writing to each employee's and collective bargaining agent's written objection to OSHA access. Where appropriate, the OSHA Medical Records Officer may revoke a written access order and direct that any medical information obtained by it be returned to the original recordholder or destroyed. The Principal OSHA Investigator shall assure that such instructions by the OSHA Medical Records Officer are promptly implemented.

(g) *Removal of direct personal identifiers.* Whenever employee medical information obtained pursuant to a written access order is taken off-site with direct personal identifiers included, the Principal OSHA Investigator shall, unless otherwise authorized by the OSHA Medical Records Officer, promptly separate all direct personal identifiers from the medical information, and code the medical information and the list of direct identifiers with a unique identifying number for each employee. The medical information with its numerical code shall thereafter be used and kept secured as though still in a directly identifiable form. The Principal OSHA Investigator shall also hand deliver or mail the list of direct personal identifiers with their corresponding numerical codes to the OSHA Medical Records Officer. The OSHA Medical Records Officer shall thereafter limit the use and distribution of the list of coded identifiers to those with a need to know its contents.

(h) *Internal agency use of personally identifiable employee medical information.* (1) The Principal OSHA Investigator shall in each instance of access be primarily responsible for assuring that personally identifiable employee medical information is used and kept secured in accordance with this section.

(2) The Principal OSHA Investigator, the OSHA Medical Records Officer, the Assistant Secretary, and any other authorized person listed on a written access order may permit the examination or use of personally identifiable employee medical information by agency employees and contractors who have a need for access, and appropriate qualifications for the purpose for which they are using the information. No OSHA employee or contractor is authorized to examine or

otherwise use personally identifiable employee medical information unless so permitted.

(3) Where a need exists, access to personally identifiable employee medical information may be provided to attorneys in the Office of the Solicitor of Labor, and to agency contractors who are physicians or who have contractually agreed to abide by the requirements of this section and implementing agency directives and instructions.

(4) OSHA employees and contractors are only authorized to use personally identifiable employee medical information for the purposes for which it was obtained, unless the specific written consent of an employee is obtained as to a secondary purpose, or the procedures of paragraphs (d)-(g) of this section are repeated with respect to the secondary purpose.

(5) Whenever practicable, the examination of personally identifiable employee medical information shall be performed on-site with a minimum of medical information taken off-site in a personally identifiable form.

(i) *Security procedures.* (1) Agency files containing personally identifiable employee medical information shall be segregated from other agency files. When not in active use, files containing this information shall be kept secured in a locked cabinet or vault.

(2) The OSHA Medical Records Officer and the Principal OSHA Investigator shall each maintain a log of uses and transfers of personally identifiable employee medical information and lists of coded direct personal identifiers, except as to necessary uses by staff under their direct personal supervision.

(3) The photocopying or other duplication of personally identifiable employee medical information shall be kept to the minimum necessary to accomplish the purposes for which the information was obtained.

(4) The protective measures established by this section apply to all worksheets, duplicate copies, or other agency documents containing personally identifiable employee medical information.

(5) Intra-agency transfers of personally identifiable employee medical information shall be by hand delivery, United States mail, or equally protective means. Inter-office mailing channels shall not be used.

(j) *Retention and destruction of records.* (1) Consistent with OSHA records disposition programs, personally identifiable employee medical information and lists of coded direct personal identifiers shall be destroyed

or returned to the original recordholder when no longer needed for the purposes for which they were obtained.

(2) Personally identifiable employee medical information which is currently not being used actively but may be needed for future use shall be transferred to the OSHA Medical Records Officer. The OSHA Medical Records Officer shall conduct an annual review of all centrally-held information to determine which information is no longer needed for the purposes for which it was obtained.

(k) *Results of an agency analysis using personally identifiable employee medical information.* The OSHA Medical Records Officer shall, as appropriate, assure that the results of an agency analysis using personally identifiable employee medical information are communicated to the employees whose personal medical information was used as a part of the analysis.

(l) *Annual report.* The OSHA Medical Records Officer shall on an annual basis review OSHA's experience under this section during the previous year, and prepare a report to the Assistant Secretary which shall be made available to the public. This report shall discuss:

(1) the number of written access orders approved and a summary of the purposes for access.

(2) the nature and disposition of employee, collective bargaining agent, and employer written objections concerning OSHA access to personally identifiable employee medical information, and

(3) the nature and disposition of requests for inter-agency transfer or public disclosure of personally identifiable employee medical information.

(m) *Inter-agency transfer and public disclosure.* (1) Personally identifiable employee medical information shall not be transferred to another agency or office outside of OSHA (other than to the Office of the Solicitor of Labor) or disclosed to the public (other than to the affected employee or the original recordholder) except when required by law or when approved by the Assistant Secretary.

(2) Except as provided in paragraph (m)(3) below, the Assistant Secretary shall not approve a request for an inter-agency transfer of personally identifiable employee medical information, which has not been consented to by the affected employees, unless the request is by a public health agency which:

(i) needs the requested information in a personally identifiable form for a substantial public health purpose,

(ii) will not use the requested information to make individual determinations concerning affected employees which could be to their detriment,

(iii) has regulations or established written procedures providing protection for personally identifiable medical information substantially equivalent to that of this section, and

(iv) satisfies an exemption to the Privacy Act to the extent that the Privacy Act applies to the requested information (*See*, 5 U.S.C. 552a(b); 29 CFR 70a.3).

(3) Upon the approval of the Assistant Secretary, personally identifiable employee medical information may be transferred to:

(i) the National Institute for Occupational Safety and Health (NIOSH) and

(ii) the Department of Justice when necessary with respect to a specific action under the Occupational Safety and Health Act.

(4) The Assistant Secretary shall not approve a request for public disclosure of employee medical information containing direct personal identifiers unless there are compelling circumstances affecting the health or safety of an individual.

(5) The Assistant Secretary shall not approve a request for public disclosure of employee medical information which contains information which could reasonably be used indirectly to identify specific employees when the disclosure would constitute a clearly unwarranted invasion of personal privacy (*See*, 5 U.S.C. 552(b)(6); 29 CFR 70.26).

(6) Except as to inter-agency transfers to NIOSH or the Department of Justice, the OSHA Medical Records Officer shall assure that advance notice is provided to any collective bargaining agent representing affected employees and to the employer on each occasion that OSHA intends to either transfer personally identifiable employee medical information to another agency or disclose it to a member of the public other than to an affected employee. When feasible, the OSHA Medical Records Officer shall take reasonable steps to assure that advance notice is provided to affected employees when the employee medical information to be transferred or disclosed contains direct personal identifiers.

(n) *Effective date.* This section shall become effective on August 21, 1980.

[FR Doc. 80-15390 Filed 5-21-80; 1:00 pm]  
BILLING CODE 4510-26-M

## DEPARTMENT OF LABOR

## Occupational Safety and Health Administration

## 29 CFR Part 1928

(Docket H-112B)

## Access to Employee Exposure and Medical Records in Agricultural Employments

**AGENCY:** The Occupational Safety and Health Administration of the United States Department of Labor (OSHA).

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This proposal extends the provisions of 29 CFR 1910.20, "Access to Employee Exposure and Medical Records" (published elsewhere in this part of the *Federal Register*), to agricultural employments. This proposal would therefore provide agricultural employees and their designated representatives with the right of access to relevant employer created or maintained medical and exposure records. Evidence presented at the rulemaking hearings on § 1910.20 indicated that access to records could be of significant occupational health benefit to agricultural employees. A thorough discussion of the justification for, and the issues raised by, this proposal may be found in the preamble to the final records access standard.

**DATES:** Comments must be submitted by August 21, 1980. Requests for a hearing must be submitted by June 23, 1980.

**ADDRESS:** Comments should be sent to: Docket Officer, Docket No. H-112B, Room S-6212, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (202-523-7894).

For additional copies of this notice contact the Publications Office, OSHA, Room S-1212C, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, 202-523-8677.

**FOR FURTHER INFORMATION CONTACT:** Dr. Flo H. Ryer, Office of Special Standards Programs, Room N-3663, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (202-523-7174).

**SUPPLEMENTARY INFORMATION:** OSHA has today promulgated a revised 29 CFR 1910.20 as a final standard entitled "Access to employee exposure and medical records." The standard was initially proposed on July 21, 1978 (43 FR 31371). Interested persons were given until September 22, 1978 to submit initial comments, and public hearings were held on the proposal in December, 1978 and January, 1979.

The standard generally provides that employees, their designated representatives, and OSHA shall have the right of access to relevant employee exposure and medical records made or maintained by employers. The standard does not require any employer to measure employee exposure to toxic substances or conduct medical surveillance of employees. However, if the employer undertakes these activities and makes records of the results, he is required under the standard to provide access for employees, designated representatives, and OSHA. The standard further provides that employee exposure records and analyses based on exposure and medical records must be kept for at least thirty years, and that medical records be kept for the duration of employment plus thirty years, although certain background data to the exposure records need only be kept for one year. (See, text of standard.)

As issued today, the final records access standard is applicable to employers in general industry, maritime and construction. It does not currently apply to agricultural employments. The purpose of this notice, therefore, is to propose the issuance of § 1910.20 as an agricultural standard, to be included as § 1928.20 of 29 CFR, so that agricultural employees have the same rights of access as other employees. If the agency decides after evaluating the comments received that § 1910.20 should be extended in its entirety to agricultural employers, this may be accomplished by simply modifying the "Scope and application" paragraph of 29 CFR 1910.20 to include agricultural employers, and also modifying Section 1928.21 to express the application of 29 CFR 1910.20 to agricultural employers. Necessary conforming amendments will also be made to existing agricultural standards such as the cotton ginning standard (29 CFR 1928.113).

Legal authority for this proposal derives from sections 6 and 8 of the Occupational Safety and Health Act (29 U.S.C. 655; 657). Section 6(b) of the Act authorizes the Secretary of Labor to promulgate, modify, or revoke by rule, any occupational safety and health standard. Section 6(b)(5) directs "the Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, (to) set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity \* \* \*". Sections 6(b)(7) and 8(c)(3) provide for employee or designated representative access to

medical records and exposure monitoring records required by occupational safety and health standards. Section 8(c)(1) provides for OSHA access to records relevant to the Act. Section 8(g)(2) authorizes the Secretary to prescribe such rules and regulations as he may deem necessary to carry out his responsibilities under this Act.

During the rulemaking proceeding on the records access standard, several participants commented on the implied exclusion of agriculture. The Migrant Legal Action Program, Inc., (MLAP) (Docket H-112, Ex. 154) and the Health Research Group (HRG) (Docket H-112, Tr. 2032-4; Ex. 161) argued that agricultural workers should be included within the scope of a records access standard, since there is no rational basis for not doing so. MLAP stated that "the burden on the agricultural employer would be no greater than it would be for any other employer," while "the value of the regulation for farmworkers would be great." (Docket H-112, Ex. 154, p. 2). The AFL-CIO also supported this position (Docket H-112, Ex. 152, p. 32).

Both MLAP and HRG observed that agricultural employment is one of the most hazardous occupations:

Nationwide, in 1977, there were an estimated 1800 accidental work-related deaths in agriculture. Fourteen percent (14%) of all work-related deaths occur in agriculture, and the annual death rate in agriculture is 53 per 100,000 workers. In 1977 one of 20 farmworkers suffered a disabling injury. This makes agriculture the third most hazardous industry in the United States, surpassed only by construction and mining/quarrying. (MLAP, Docket H-112, Ex. 154, p. 1)

HRG noted that farmworkers are often exposed to pesticides and other toxic substances during the course of their employment (Docket H-112, Tr. 2033). HRG also stated:

Rarely if ever do farmworkers know the nature or extent of these exposures. And if a farmworker were to ask a labor contractor or grower for records which shed light on these exposures, the records would likely be destroyed and the farmworker fired.

Without rules requiring agricultural employers to retain and disclose exposure and medical records, farmworkers will surely be denied the right to know about health hazards in their workplaces. (HRG, Docket H-112, Tr. 2033)

MLAP further stated that the need for farmworker access to exposure and medical information is reinforced by the limited resources of OSHA to inspect agricultural worksites (Docket H-112, Ex. 154, p. 2, 3).

OSHA finds MLAP's and HRG's comments to be persuasive. However,



### Subpart C—General Safety and Health Provisions

1. Section 1910.20 is revised to read as follows, including the addition of Appendices A and B:

#### § 1910.20 Access to employee exposure and medical records.

(a) *Purpose.* The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records; and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees, their representatives, and the Assistant Secretary is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. Each employer is responsible for assuring compliance with this section, but the activities involved in complying with the access to medical records provisions can be carried out, on behalf of the employer, by the physician or other health care personnel in charge of employee medical records. Except as expressly provided, nothing in this section is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.

(b) *Scope and application.* (1) This section applies to each general industry, maritime, and construction employer who makes, maintains, contracts for, or has access to employee exposure or medical records, or analyses thereof, pertaining to employees exposed to toxic substances or harmful physical agents.

(2) This section applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents, whether or not the records are related to specific occupational safety and health standards.

(3) This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including on an in-house or contractual (e.g., fee-for-service) basis. Each employer shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which records are made or maintained.

(c) *Definitions.* (1) "Access" means the right and opportunity to examine and copy.

(2) "Analysis using exposure or medical records" means any compilation of data, or any research, statistical or other study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

(3) "Designated representative" means any individual or organization to whom an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

(4) "Employee" means a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In the case of a deceased or legally incapacitated employee, the employee's legal representative may directly exercise all the employee's rights under this section.

(5) "Employee exposure record" means a record containing any of the following kinds of information

concerning employee exposure to toxic substances or harmful physical agents:

(i) environmental (workplace) monitoring or measuring, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;

(ii) biological monitoring results which directly assess the absorption of a substance or agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent;

(iii) material safety data sheets; or

(iv) in the absence of the above, any other record which reveals the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.

(6)(i) "Employee medical record" means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician, including:

(A) medical and employment questionnaires or histories (including job description and occupational exposures),

(B) the results of medical examinations (pre-employment, pre-assignment, periodic, or episodic) and laboratory tests (including X-ray examinations and all biological monitoring),

(C) medical opinions, diagnoses, progress notes, and recommendations,

(D) descriptions of treatments and prescriptions, and

(E) employee medical complaints.

(ii) "Employee medical record" does not include the following:

(A) physical specimens (e.g., blood or urine samples) which are routinely discarded as a part of normal medical practice, and are not required to be maintained by other legal requirements,

(B) records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (e.g., social security number, payroll number, etc.), or

(C) records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.

(7) "Employer" means a current employer, a former employer, or a successor employer.

(8) "Exposure" or "exposed" means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (e.g., accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.

(9) "Record" means any item, collection, or grouping of information regardless of the form or process by which it is maintained (e.g., paper document, microfiche, microfilm, X-ray film, or automated data processing).

(10) "Specific written consent" (i) means a written authorization containing the following:

(A) the name and signature of the employee authorizing the release of medical information,

(B) the date of the written authorization,

(C) the name of the individual or organization that is authorized to release the medical information,

(D) the name of the designated representative (individual or organization) that is authorized to receive the released information,

(E) a general description of the medical information that is authorized to be released,

(F) a general description of the purpose for the release of the medical information, and

(G) a date or condition upon which the written authorization will expire (if less than one year).

(ii) A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless this is expressly authorized, and does not operate for more than one year from the date of written authorization.

(iii) A written authorization may be revoked in writing prospectively at any time.

(11) "Toxic substance or harmful physical agent" means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo- or hyperbaric pressure, etc.) which:

(i) is regulated by any Federal law or rule due to a hazard to health,

(ii) is listed in the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of

Chemical Substances (RTECS) (See Appendix B).

(iii) has yielded positive evidence of an acute or chronic health hazard in human, animal, or other biological testing conducted by, or known to, the employer, or

(iv) has a material safety data sheet available to the employer indicating that the material may pose a hazard to human health.

(d) *Preservation of records.* (1) Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

(i) *Employee medical records.* Each employee medical record shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that health insurance claims records maintained separately from the employer's medical program and its records need not be retained for any specified period;

(ii) *Employee exposure records.* Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

(A) Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year so long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and

(B) Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years; and

(iii) *Analyses using exposure or medical records.* Each analysis using exposure or medical records shall be preserved and maintained for at least thirty (30) years.

(2) Nothing in this section is intended to mandate the form, manner, or process by which an employer preserves a record so long as the information contained in the record is preserved and retrievable, except that X-ray films shall be preserved in their original state.

(e) *Access to records.* (1) *General.* (i) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time.



place, and manner, but in no event later than fifteen (15) days after the request for access is made.

(ii) Whenever an employee or designated representative requests a copy of a record, the employer shall, within the period of time previously specified, assure that either:

(A) a copy of the record is provided without cost to the employee or representative,

(B) the necessary mechanical copying facilities (e.g., photocopying) are made available without cost to the employee or representative for copying the record, or

(C) the record is loaned to the employee or representative for a reasonable time to enable a copy to be made.

(iii) Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (i.e., search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that

(A) An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and

(B) An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

(iv) Nothing in this section is intended to preclude employees and collective bargaining agents from collectively bargaining to obtain access to information in addition to that available under this section.

(2) *Employee and designated representative access.* (i) *Employee exposure records.* Each employer shall, upon request, assure the access of each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, exposure records relevant to the employee consist of:

(A) records of the employee's past or present exposure to toxic substances or harmful physical agents,

(B) exposure records of other employees with past or present job duties or working conditions related to or similar to those of the employee,

(C) records containing exposure information concerning the employee's workplace or working conditions, and

(D) exposure records pertaining to workplaces or working conditions to

which the employee is being assigned or transferred.

(ii) *Employee medical records.* (A) Each employer shall, upon request, assure the access of each employee to employee medical records of which the employee is the subject, except as provided in paragraph (e)(2)(ii)(D) below.

(B) Each employer shall, upon request, assure the access of each designated representative to the employee medical records of any employee who has given the designated representative specific written consent. Appendix A to this section contains a sample form which may be used to establish specific written consent for access to employee medical records.

(C) Whenever access to employee medical records is requested, a physician representing the employer may recommend that the employee or designated representative:

(1) consult with the physician for the purposes of reviewing and discussing the records requested,

(2) accept a summary of material facts and opinions in lieu of the records requested, or

(3) accept release of the requested records only to a physician or other designated representative.

(D) Whenever an employee requests access to his or her employee medical records, and a physician representing the employer believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the employer may inform the employee that access will only be provided to a designated representative of the employee having specific written consent, and deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the employer shall assure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.

(E) Nothing in this section precludes a physician, nurse, or other responsible health care personnel maintaining employee medical records from deleting from requested medical records the identity of a family member, personal friend, or fellow employee who has provided confidential information concerning an employee's health status.

(iii) *Analyses using exposure or medical records.*

(A) Each employer shall, upon request, assure the access of each employee and designated representative to each analysis using exposure or medical records concerning the employee's working conditions or workplace.

(B) Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

(3) *OSHA access.* (i) Each employer shall, upon request, assure the immediate access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.

(ii) Whenever OSHA seeks access to personally identifiable employee medical information by presenting to the employer a written access order pursuant to 29 CFR 1913.10(d), the employer shall prominently post a copy of the written access order and its accompanying cover letter for at least fifteen (15) working days.

(f) *Trade secrets.* (1) Except as provided in paragraph (f)(2) of this section, nothing in this section precludes an employer from deleting from records requested by an employee or designated representative any trade secret data which discloses manufacturing processes, or discloses the percentage of a chemical substance in a mixture, as long as the employee or designated representative is notified that information has been deleted. Whenever deletion of trade secret information substantially impairs evaluation of the place where or the time when exposure to a toxic substance or harmful physical agent occurred, the employer shall provide alternative information which is sufficient to permit the employee to identify where and when exposure occurred.

(2) Notwithstanding any trade secret claims, whenever access to records is requested, the employer shall provide

access to chemical or physical agent identities including chemical names, levels of exposure, and employee health status data contained in the requested records.

(3) Whenever trade secret information is provided to an employee or designated representative, the employer may require, as a condition of access, that the employee or designated representative agree in writing not to use the trade secret information for the purpose of commercial gain and not to permit misuse of the trade secret information by a competitor or potential competitor of the employer.

(g) *Employee information.* (1) Upon an employee's first entering into employment, and at least annually thereafter, each employer shall inform employees exposed to toxic substances or harmful physical agents of the following:

(i) the existence, location, and availability of any records covered by this section;

(ii) the person responsible for maintaining and providing access to records; and

(iii) each employee's rights of access to these records.

(2) Each employer shall make readily available to employees a copy of this standard and its appendices, and shall distribute to employees any informational materials concerning this standard which are made available to the employer by the Assistant Secretary of Labor for Occupational Safety and Health.

(h) *Transfer of records.* (1) Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.

(2) Whenever an employer is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, the employer shall notify affected employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.

(3) Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall:

(i) transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by a specific occupational safety and health standard; or

(ii) notify the Director of NIOSH in writing of the impending disposal of

records at least three (3) months prior to the disposal of the records.

(4) Where an employer regularly disposes of records required to be preserved for at least thirty (30) years, the employer may, with at least (3) months notice, notify the Director of NIOSH on an annual basis of the records intended to be disposed of in the coming year.

(i) *Appendices.* The information contained in the appendices to this section is not intended, by itself, to create any additional obligations not otherwise imposed by this section nor detract from any existing obligation.

(j) *Effective date.* This section shall become effective on August 21, 1980. All obligations of this section commence on the effective date except that the employer shall provide the information required under paragraph (g)(1) of this section to all current employees within sixty (60) days after the effective date.

**Appendix A to § 1910.20—Sample Authorization Letter for the Release of Employee Medical Record Information to a Designated Representative**

I, \_\_\_\_\_, (full name of worker/patient) hereby authorize \_\_\_\_\_ (individual or organization holding the medical records) to release to \_\_\_\_\_ (individual or organization authorized to receive the medical information), the following medical information from my personal medical records:

(Describe generally the information desired to be released).

I give my permission for this medical information to be used for the following purpose: \_\_\_\_\_, but I do not give permission for any other use or re-disclosure of this information.

(Note.—Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records which you do not intend to be released as a result of this letter.)

\_\_\_\_\_  
Full name of Employee or Legal Representative

\_\_\_\_\_  
Signature of Employee or Legal Representative

\_\_\_\_\_  
Date of Signature

**Appendix B to § 1910.20—Availability of NIOSH Registry of Toxic Effects of Chemical Substances (RTECS)<sup>1</sup>**

The final standard, 29 CFR 1910.20, applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents (paragraph (b)(2)). The term "toxic substance or harmful physical agent" is defined by paragraph (c)(11) to encompass chemical substances, biological agents, and physical stresses for which there is evidence of harmful health effects. The standard uses the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) as one of the chief sources of information as to whether evidence of harmful health effects exists. If a substance is listed in the latest printed RTECS, the standard applies to exposure and medical records (and analyses of these records) relevant to employees exposed to the substance.

It is appropriate to note that the final standard does not require that employers purchase a copy of RTECS, and many employers need not consult RTECS to ascertain whether their employee exposure or medical records are subject to the standard. Employers who do not currently have the latest printed edition of the NIOSH RTECS, however, may desire to obtain a copy. The RTECS is issued in an annual printed edition as mandated by section 20(a)(6) of the Occupational Safety and Health Act (29 U.S.C. 669(a)(6)). The 1978 edition is the most recent printed edition as of May 1, 1980. Its Foreword and Introduction describes the RTECS as follows:

"The annual publication of a list of known toxic substances is a NIOSH mandate under the Occupational Safety and Health Act of 1970. It is intended to provide basic information on the known toxic and biological effects of chemical substances for the use of employers, employees, physicians, industrial hygienists, toxicologists, researchers, and, in general, anyone concerned with the proper and safe handling of chemicals. In turn, this information may contribute to a better understanding of potential occupational hazards by everyone involved and ultimately may help to bring about a more healthful workplace environment. (p. iii)

"This Registry contains 124,247 listings of chemical substances; 33,929 are names of different chemicals with their associated toxicity data and 90,318 are synonyms. This edition includes approximately 7,500 new chemical compounds that did not appear in the 1977 Registry. (p. xiii)

"The Registry's purposes are many, and it serves a variety of users. It is a single source document for basic toxicity information and for other data, such as chemical identifiers and information necessary for the preparation of safety directives and hazard

<sup>1</sup> On April 24, 1980, the Director of the Federal Register approved for incorporation by reference into 29 CFR 1910, the 1978 edition of the National Institute for Occupational Safety and Health Registry of Toxic Effects of Chemical Substances (the Registry). (See 29 CFR 1910.20 (c)(11)(ii)).

evaluations for chemical substances. The various types of toxic effects linked to literature citations provide researchers and occupational health scientists with an introduction to the toxicological literature, making their own review of the toxic hazards of a given substance easier. By presenting data on the lowest reported doses that produce effects by several routes of entry in various species, the Registry furnishes valuable information to those responsible for preparing safety data sheets for chemical substances in the workplace. Chemical and production engineers can use the Registry to identify the hazards which may be associated with chemical intermediates in the development of final products, and thus can more readily select substitutes or alternate processes which may be less hazardous. (p. xiii)

"In this edition of the Registry, the editors intend to identify "all known toxic substances" which may exist in the environment and to provide pertinent data on the toxic effects from known doses entering an organism by any route described. Data may be used for the evaluation of chemical hazards in the environment, whether they be in the workplace, recreation area, or living quarters. (p. xiii)

"It must be reemphasized that the entry of a substance in the Registry does not automatically mean that it must be avoided. A listing does mean, however, that the substance has the documented potential of being harmful if misused, and care must be exercised to prevent tragic consequences. (p. xiv)"

The RTECS 1978 printed edition may be purchased for \$13.00 from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D.C. 20402 (202-783-3238) (Order GPO Stock No. 017-033-00346-7). The 1979 printed edition is anticipated to be issued in the summer of 1980. Some employers may also desire to subscribe to the quarterly update to the RTECS which is published in a microfiche edition. An annual subscription to the quarterly microfiche may be purchased from the GPO for \$14.00 (Order the "Microfiche Edition, Registry of Toxic Effects of Chemical Substances"). Both the printed edition and the microfiche edition of RTECS are available for review at many university and public libraries throughout the country. The latest RTECS editions may also be examined at the OSHA Technical Data Center, Room N2439-Rear, United States Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210 (202-523-9700), or at any OSHA Regional or Area Office (See, major city telephone directories under United States Government-Labor Department).

#### Subpart T—Commercial Diving Operations

2. Section 1910.440 is amended by revising paragraphs (b)(2) and (b)(4) to read as follows:

##### §1910.440 Recordkeeping requirements.

(b) \* \* \*

(2) Records and documents required by this standard shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). Safe practices manuals (§1910.420), depth-time profiles (§1910.422), recordings of dives (§1910.423), decompression procedure assessment evaluations (§1910.423), and records of hospitalizations (§1910.440) shall be provided in the same manner as employee exposure records or analyses using exposure or medical records. Equipment inspections and testing records which pertain to employees (§1910.430) shall also be provided upon request to employees and their designated representatives.

(4) After the expiration of the retention period of any record required to be kept for five (5) years, the employer shall forward such records to the National Institute for Occupational Safety and Health, Department of Health and Human Services. The employer shall also comply with any additional requirements set forth at 29 CFR 1910.20(h).

#### Subpart Z—Toxic and Hazardous Substances

3. Section 1910.1001 is amended by revising paragraphs (i)(2) and (j)(6)(ii) to read as follows:

##### §1910.1001 Asbestos.

(i) \* \* \*

(2) *Access.* Employee exposure records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i).

(j) \* \* \*

(6) \* \* \*

(ii) *Access.* Records of the medical examinations required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon the request to the Director of NIOSH. Any physician who conducts a medical examination required by this paragraph shall furnish to the employer of the examined employee all the information specifically required by this paragraph, and any other medical information related to occupational exposure to asbestos fibers.

4. Section 1910.1003 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1003 4-Nitrobiphenyl.

(g) \* \* \*

(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

5. Section 1910.1004 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1004 alpha-Naphthylamine.

(g) \* \* \*

(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

6. Section 1910.1006 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1006 Methyl chloromethyl ether.

(g) \* \* \*

(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

7. Section 1910.1007 is amended by revising paragraph (g)(2)(ii) to read as follows:

##### §1910.1007 3,3'-Dichlorobenzidine (and its salts).

(g) \* \* \*

(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

8. Section 1910.1008 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1008 bis-Chloromethyl ether.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

9. Section 1910.1009 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1009 beta-Naphthylamine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

10. Section 1910.1010 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1010 Benzidine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

11. Section 1910.1011 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1011 4-Aminodiphenyl.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

12. Section 1910.1012 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1012 Ethyleneimine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

13. Section 1910.1013 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1013 beta-Propiolactone.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

14. Section 1910.1014 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1014 2-Acetylaminofluorene.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

15. Section 1910.1015 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1015 4-Dimethylaminoazobenzene.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

16. Section 1910.1016 is amended by revising paragraph (g)(2)(ii) to read as follows:

§ 1910.1016 N-Nitrosodimethylamine.

(g) \* \* \*  
(2) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall also be provided upon request to the Director.

17. Section 1910.1017 is amended by revising the introductory text of paragraph (m)(2) and paragraph (m)(3) and removing paragraphs (m)(4), (m)(5) and (m)(6) to read as follows:

§ 1910.1017 Vinyl chloride.

(m) \* \* \*

(2) Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i). These records shall be provided upon request to the Director. Authorized personnel rosters shall also be provided upon request to the Assistant Secretary and the Director.

(i) \* \* \*  
(ii) \* \* \*  
(iii) \* \* \*

(3) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in 29 CFR 1910.20(h).

18. Section 1910.1018 is amended by revising paragraphs (q)(3)(ii) and Appendix A Section VIII, by removing paragraph (q)(3)(iii) and by adding paragraph (q)(4)(iv) to read as follows:

§ 1910.1018 Inorganic arsenic.

(q) \* \* \*  
(3) \* \* \*

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)-(e) and (g)-(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving the transfer of records set in 29 CFR 1910.20(h).

#### Appendix A—Inorganic Arsenic Substance Information Sheet

##### VIII. Access to Records

You or your representative are entitled to records of your exposure to inorganic arsenic and your medical examination records if you request your employer to provide them.

19. Section 1910.1025 is amended by revising paragraphs (n)(4)(ii), removing paragraph (n)(4)(iii) and by adding paragraph (n)(5)(iv) to read as follows:

#### §1910.1025 Lead.

(n) \* \* \*

(4) \* \* \*

(ii) Environmental monitoring, medical removal, and medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (2)–(i). Medical removal records shall be provided in the same manner as environmental monitoring records.

(5) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

20. Section 1910.1028 is amended by revising paragraphs (l)(3)(ii) and Appendix A Section VII, by removing paragraphs (l)(3)(iii) and (l)(3)(iv) and by adding paragraph (l)(4)(iv) to read as follows:

#### §1910.1028 Benzene.

(1) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

#### Appendix A—Substance Safety Data Sheet, Benzene

##### VII. Access to Records.

You or your representative are entitled to see the records of your exposure to benzene and your medical examination records if you request your employer to provide them.

21. Section 1910.1029 is amended by revising paragraphs (m)(3)(ii), removing paragraphs (m)(3)(iii) and (m)(3)(iv), and by adding paragraph (m)(4)(iv) to read as follows:

#### §1910.1029 Coke oven emissions.

(m) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

22. Section 1910.1043 is amended by revising paragraphs (k)(3)(ii) by removing paragraphs (k)(3)(iii) and (k)(3)(iv) and by adding paragraph (k)(4)(iv) to read as follows:

#### §1910.1043 Cotton dust.

(k) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

23. Section 1910.1044 is amended by revising paragraphs (p)(3)(ii) by removing paragraphs (p)(3)(iii) and (p)(3)(iv) and by adding paragraph (p)(4)(iv) to read as follows:

#### §1910.1044 1,2-Dibromo-3-chloropropane.

(p) \* \* \*

(3) \* \* \*

(ii) Employee exposure monitoring records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

24. Section 1910.1045 is amended by revising paragraphs (q)(4)(ii) and Appendix A section VI, D by removing paragraph (q)(4)(iii) and by adding paragraph (q)(5)(iv) to read as follows:

#### §1910.1045 Acrylonitrile.

(q) \* \* \*

(4) \* \* \*

(ii) Records required by paragraphs (q)(1)–(q)(3) of this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20 (a)–(e) and (q)–(i). Records required by paragraph (q)(1) shall be provided in the same manner as exposure monitoring records.

(5) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

#### Appendix A—Substance Safety Data Sheet for Acrylonitrile

##### VI. Access to Information

D. Your employer is required to release your exposure and medical records to you or your representative upon your request.

25. Section 1910.1046 is amended by revising paragraph (h)(2)(ii) and by adding paragraph (h)(3)(iv) to read as follows:

#### §1910.1046 Exposure to cotton dust in cotton gins.

(h) \* \* \*

(2) \* \* \*

(ii) Employee medical records shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)–(e) and (g)–(i).

(3) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

26. Section 1990.151 is amended by revising paragraphs (q)(3)(ii) by removing paragraph (q)(3)(iii) and by adding paragraph (q)(4)(iv) to read as follows:

#### §1910.151 Model Standard pursuant to section 6(b) of the Act.

(q) \* \* \*

(3) \* \* \*

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1910.20(a)-(e) and (g)-(i).

(4) \* \* \*

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1910.20(h).

27. Section 1990.152 is amended by revising paragraphs (q)(3)(i) and (q)(3)(ii) and removing (q)(3)(iii) to read as follows:

**§ 1990.152 Model Emergency Temporary Standard pursuant to section 6(c).**

(q) \* \* \*

(3) \* \* \*

(i) The employer shall assure that all records required to be maintained by this section be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee exposure measurement records and employee medical records required by this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1990.20(a)-(e) and (g)-(i).

(Secs. 6(b), 8(c) and 8(g) (84 Stat. 1593, 1599, 1600; 29 U.S.C. 655, 657), the Secretary of Labor's Order 8-76 (41 FR 25059) and 29 CFR Part 1911, Chapter XVII of Title 29)

[FR Doc. 80-15389 Filed 5-21-80; 8:45 am]

BILLING CODE 4510-26-M

## 29 CFR Part 1913

### Rules of Agency Practice and Procedure Concerning OSHA Access to Employee Medical Records

**AGENCY:** The Occupational Safety and Health Administration of the United States Department of Labor (OSHA).

**ACTION:** Final rule.

**SUMMARY:** These rules of agency practice and procedure, promulgated today as a new 29 CFR 1913.10, govern OSHA access to personally identifiable employee medical information contained in medical records. The rules are structured to protect the substantial personal privacy interests inherent in identifiable medical records, while also permit OSHA to make beneficial use of these records for proper occupational safety and health purposes. The rules

regulate the manner in which OSHA will seek access to employee medical records, and how the medical information will be protected once in the agency's possession.

**EFFECTIVE DATE:** August 21, 1980.

**FOR FURTHER INFORMATION CONTACT:**

Mr. James F. Foster, Department of Labor, OSHA, Office of Public Affairs, Third Street and Constitution Avenue, NW., Room N-3641, Washington, DC 20210 (202-523-8151). Copies of this document may be obtained at any time by request to the OSHA Office of Public Affairs at the address or telephone number listed above, or by contacting any OSHA regional or area office.

**SUPPLEMENTARY INFORMATION:**

#### I. Introduction

The statement of reasons accompanying these regulations (the preamble) is divided into four parts, numbered I through IV. The following is a table of contents for this preamble:

- I. Introduction
- II. Pertinent Legal Authority
- III. Summary and Explanation of the Regulations
  - A. Paragraph (a)—*General policy.*
  - B. Paragraph (b)—*Scope and application.*
  - C. Paragraph (c)—*Responsible persons.*
  - D. Paragraph (d)—*Written access orders.*
  - E. Paragraph (e)—*Presentation of written access order and notice to employees.*
  - F. Paragraph (f)—*Objections concerning a written access order.*
  - G. Paragraph (g)—*Removal of direct personal identifiers.*
  - H. Paragraph (h)—*Internal agency use of personally identifiable medical information.*
  - I. Paragraph (i)—*Security procedures.*
  - J. Paragraph (j)—*Retention and destruction of records.*
  - K. Paragraph (k)—*Results of an agency analysis using personally identifiable employee medical information.*
  - L. Paragraph (l)—*Annual report.*
  - M. Paragraph (m)—*Inter-agency transfer and public disclosure.*
  - N. Paragraph (n)—*Effective date.*
- IV. Authority, Signature, and the Regulations

Part III is a provision-by-provision discussion of the regulations in lettered paragraphs corresponding to the lettered paragraphs of the regulations. It provides a brief summary of each provision and the evidence and rationale supporting it. References to the rulemaking record in the text of the preamble are in parentheses, and the following abbreviations have been used:

1. Ex. : Exhibit number to Docket H-112

2. Tr. : Transcript page number

These rules of agency practice and procedure are issued pursuant to sections 8(c)(1) and 8(g) of the Occupational Safety and Health Act of

1970 ("the Act") (84 Stat. 1599, 29 U.S.C. 657), section (e) of the Privacy Act (5 U.S.C. 552a(e)), and the government's general housekeeping statute (5 U.S.C. 301).

#### A. Background

The Occupational Safety and Health Administration (OSHA) has today published a final standard, 29 CFR 1910.20, governing access to employee exposure and medical records. Subparagraph (e)(3) of section 1910.20 provides for unconsented OSHA access to personally identifiable employee medical records. The need for OSHA access to employee medical records, and the decisionmaking involved in providing for unconsented OSHA access, are explained in the preamble accompanying 29 CFR 1910.20. The final regulations set forth below as § 1913.10 of 29 CFR establish agency procedures governing OSHA access to these records. These rules of agency practice and procedure serve to (1) control the circumstances under which OSHA seeks access to personally identifiable medical records, and (2) protect personally identifiable medical information once it has been obtained by the agency. These procedures are intended to preclude possible misuse of employee medical records, while at the same time enable medical record information to play a constructive role in agency efforts directed to the prevention of occupational injury and disease.

#### B. History of the regulations

These final regulations, 29 CFR 1913.10, have been developed in concert with the promulgation of 29 CFR 1910.20. 29 CFR 1910.20 was first published on July 19, 1978 (43 FR 31019) as an interim final rule. This rule required the indefinite retention of employee exposure and medical records, and required that these records be made available upon request to OSHA and to NIOSH (the National Institute for Occupational Safety and Health). This interim final rule was followed by a proposed rule published on July 21, 1978 (43 FR 31371) which proposed to expand 29 CFR 1910.20 to include employee and employee representative access to employee exposure and medical records, whether or not these records were subject to specific occupational safety and health standards. The proposed rule also set a definite minimal time period for the retention of these records. OSHA gave interested persons until September 22, 1978 to present written comments, views or arguments on any issue raised by the proposal. A total of 211 initial comments were received. Based on the



widespread interest evidenced by these comments, OSHA announced on October 6, 1978 (43 FR 46322) a schedule for public hearings on this proposal.

Hearings were held in Washington, DC from December 5-8, 1978 and from January 3-5, 1979; in Chicago, Illinois from December 12-13, 1978 and from January 9-10, 1979; and in San Francisco, California on December 15, 1978. A total of 85 individuals and organizations gave oral presentations, and the hearing transcript numbers 2542 pages.

OSHA has in the past exercised its authority to seek access to employee exposure and medical records as part of its regulatory and enforcement powers. For example, specific occupational safety and health standards have always provided for OSHA access to the records required by these standards. Nevertheless, inclusion of a general OSHA access provision in both the interim final rule and the proposed rule raised for public comment the question of the agency's policies and procedures governing access to, and use of, employee medical records. Numerous participants noted OSHA's lack of written procedures and policies concerning access to, and handling of, often highly sensitive medical information, and indicated that appropriate mechanisms protecting the confidentiality of accessed records should be developed (Cal. Dept. of Industrial Relations, Ex. 2(132), p. 3; National Commission on the Confidentiality of Health Records (NCCHR), Ex. 2(151), p. 2; Outboard Marine Corp., Ex. 2(183), pp. 6-8).

OSHA agreed with these concerns, and accordingly developed and made available for public comment draft administrative guidelines governing OSHA access to employee medical records. A copy of these draft guidelines was placed in the public rulemaking record (Docket No. H-112) of the proposed rule on November 24, 1978. OSHA official Grover Wrenn, in his opening statement at the December 5, 1978 hearings, announced the public availability of the guidelines (Tr. 15-16). On January 19, 1979, an additional public notice of the availability of the draft guidelines was published in the *Federal Register* (44 FR 3994). In that notice, OSHA gave the public until March 1, 1979, to comment on the draft guidelines. In addition, OSHA announced its intention to issue the final guidelines as regulations and to limit their scope to confidential medical information, and not apply them to trade secret information. On February 27, 1979 (44 FR 11096) the comment period was

extended to March 30, 1979. A total of 43 comments were received into a separate docket created to receive these comments (Docket No. H-112A). The regulations below are based on the total record in Dockets No. H-112 and H-112A and on the agency's experience and expertise.

## II. Pertinent Legal Authority

The legal authority for these procedural regulations is found in sections 8(c)(1) and 8(g)(2) of the Occupational Safety and Health Act ("The Act"), 29 U.S.C. 657; in section (e) of the Privacy Act, 5 U.S.C. 552a(e); and in 5 U.S.C. 301.

Section 8(c)(1) of the Act provides that:

[E]ach employer shall make, keep, preserve, and make available to the Secretary [of Labor] or the Secretary of Health, Education, and Welfare, such records regarding his activities relating to this Act as the Secretary, in cooperation with the Secretary of Health, Education, and Welfare, may prescribe by regulation as necessary or appropriate for the enforcement of this Act or for developing information regarding the causes and prevention of occupational accidents and illnesses.

Employee medical records are included within the type of records addressed by this provision.

Section 8(g)(2) is the general rulemaking authority of the Act and states that:

[T]he Secretary and the Secretary of Health, Education, and Welfare, shall each prescribe such rules and regulations as he may deem necessary to carry out their responsibilities under the Act, including rules and regulations dealing with the inspection of an employee's establishment.

These procedural regulations are deemed necessary to enable beneficial use of employee medical records consistent with the employee's right of privacy.

The Privacy Act, 5 U.S.C. 552a, imposes specific obligations on agencies to protect personally identifiable records within their possession. In particular, paragraphs (9) and (10) of section (e) of the Privacy Act require each agency that maintains a system of covered records to:

(9) establish rules of conduct for persons involved in the design, development, operation and maintenance of any system of records, or in maintaining any record, and instruct each such person with respect to such rules and the requirements of this section, including any other rules and procedures adopted pursuant to this section and the penalties for noncompliance; and (10) establish appropriate administrative, technical, and physical safeguards to insure the security and confidentiality of records and to protect against any anticipated threats

or hazards to their security or integrity which could result in substantial harm, embarrassment, inconvenience, or unfairness to any individual on whom information is maintained . . .

Part 70a of 29 CFR constitutes the Department of Labor's implementation of the Privacy Act. The regulations set forth below provide additional procedures with respect to personally identifiable employee medical information which OSHA seeks to examine or obtain.

Section 301 of 5 U.S.C. is the government's general "housekeeping" statute, and authorizes the promulgation of regulations of this nature. It provides:

The head of an Executive department or military department may prescribe regulations for the government of his department, the conduct of its employees, the distribution and performance of its business, and the custody, use, and preservation of its records, papers, and property. This section does not authorize withholding information from the public or limiting the availability of records to the public.

In addition, the agency has reviewed the provisions of the regulations pursuant to the National Environmental Policy Act of 1969 and Council on Environmental Quality Regulations (40 CFR Part 1500). The agency has determined that no significant environmental impact will result from the implementation of these rules.

## III. Summary and Explanation of the Regulations

The administrative rules of practice and procedure set forth below maintain the same structure and approach as the draft guidelines, but have been significantly refined in light of the record and the agency's evaluation of it. The provisions have been tailored to the way in which OSHA is structured, managed, and staffed, and would not necessarily be pertinent to any other Federal agency. In forming these procedures, the agency considered both the importance of protecting the right to personal privacy and the equally important interest in facilitating the beneficial use of medical record information. The resulting regulations represent, in OSHA's view, an appropriate balance between the two interests. It is appropriate to stress that OSHA has historically made only limited use of employee medical records, and this policy will not be changed by these regulations. These procedural regulations will govern those situations, primarily concerning employee exposure to toxic substances, where medical record information is highly relevant to, and sometimes crucial to, the agency's performance of

its statutory functions. As a result, these regulations will improve the agency's protection of personally identifiable information, but will not by themselves serve to expand agency attempts to seek use of this information.

#### A. Paragraph (a)—General policy

The final rule expands the "General Policy" section of the draft guidelines into two paragraphs, "General policy" and "Scope and application." Paragraph (a), General policy, notes the importance of both personal privacy and the value of medical records to OSHA's performance of statutory functions. The central constraints on OSHA access to personally identifiable medical information which are created by the regulations are then highlighted. These policies are implemented by the specific provisions which follow.

The final rule omits a waiver provision. The waiver clause of the draft guidelines was criticized by numerous participants as unjustified and as demonstrating a half-hearted agency commitment to personal privacy (USWA, Ex. 160, p.18; Belair (NCCHR), Tr. 1874; SOCMA, Ex. 167(9-36); ORC, Ex. 159, p. 2; National Steel Co., Ex. 157, p. 2; Borg-Warner Chemicals, Ex.167(9-22)). The agency originally included a waiver clause due to a concern that unforeseen emergency situations could arise where the literal application of the guidelines would frustrate accomplishment of statutory responsibilities. Having reconsidered the issue in view of these comments the agency deleted the provision. The agency is convinced that the final regulations can accommodate all access situations, even emergency situations where the quickest possible action is essential.

#### B. Paragraph (b)—Scope and application

Paragraph (b) defines the circumstances under which the procedural regulations will apply. Except as provided in paragraphs (b)(3)-(b)(6), the regulations apply to "all requests by OSHA personnel to obtain access to records in order to examine or copy personally identifiable employee medical information, whether or not pursuant to the access provisions of 29 CFR 1910.20(e)." The regulations thus establish the framework under which all agency efforts to examine records containing employee medical information are to be conducted.

The applicability of the regulations turns on the definition of what constitutes personally identifiable information. Subparagraph (b)(2) states as follows:

For the purposes of this section, "personally identifiable employee medical information" shall mean employee medical information accompanied by either direct identifiers (name, address, social security number, payroll number, etc.) or by information which could reasonably be used in the particular circumstances indirectly to identify specific employees (e. g., exact age, height, weight, race, sex, date of initial employment, job title, etc.).

This definition follows the recommendation of the American Medical Records Association (AMRA) (Ex. 82, pp. 1-2; See also, Birdbord (NIOSH), Ex. 22, p. 5), and explicitly acknowledges the fact that a wide variety of data can in certain situations be used indirectly to identify specific employees (Bierbaum (NIOSH), Tr. 506). These regulations establish procedures to limit access to only that data necessary to accomplish a statutory purpose. OSHA will on occasion need to consider the factors of age, sex, race, height, weight, duration of employment, place of birth, etc., to properly evaluate specific medical tests (Dr. Whorton, Ex. 11, p. 21, Tr. 299). Where this kind of information is reported in a fashion which could reasonably be used under the circumstances to identify specific employees, the information is treated no differently than when direct identifiers are attached. Conversely, where information cannot reasonably be used under the circumstances to identify specific employees, these regulations do not apply.

Subparagraph (b)(3), for the sake of clarity, excludes from the scope of the rule several forms of information which do not constitute "personally identifiable employee medical information." First, aggregate employee medical information and medical records on individual employees which are not in a personally identifiable form are excluded. Protection of the personal privacy of employees requires only that personally identifiable medical information be protected. Many employers periodically analyze the contents of employee medical records as a part of their occupational medical programs, and this practice is a sound one. Research studies, statistical analyses of raw medical data, and listings of biological monitoring results (stripped of identifiers) can be valuable tools in detecting, controlling, and preventing occupational disease. These devices do not impinge on the personal privacy expectations of any specific employee, and could not be used adversely against specific employees. They should be readily available upon request to public health agencies like OSHA.

Subparagraph (b)(3) also excludes the OSHA injury and illness log (29 CFR Part 1904), death certificates, and employee exposure records from coverage by these regulations. Biological monitoring test results treated by 29 CFR 1910.20(c)(5) or by specific occupational safety and health standards as exposure records are also excluded. These kinds of personal records may on occasion be of such significance that they should be treated with discretion and care (See, HRG, Tr. 2039-40, Ex. 2(161), p. 3, Ex. 167(9-40), pp. 1-2), and several participants recommended that at least exposure records should be covered by the administrative regulations (*Id.*; Phillips Petroleum Co., Ex. 167(9-23), p. 2; SOHIO, Ex. 167(9-29), p. 2). The agency, however, has not done so because (1) these documents may be already widely known within the workplace; (2) the privacy interests involved in these records are not of comparable magnitude to those involved in identifiable medical records; (3) these records are of such occupational health and safety importance and they will be so frequently used by various agency personnel that rigid approval and security procedures are both impractical and inappropriate; and (4) agency discretion and care can adequately protect whatever privacy interests apply to these records without having to impose these regulations.

By excluding employee exposure records, the language of subparagraph (b)(3) also serves to exclude trade secret information from coverage by these regulations. Although several participants urged that these administrative regulations apply to trade secrets (MCA, Ex. 167(9-38); DuPont, Ex. 167(41), p. 3), and the draft guidelines so provided (Ex. 167(2)), the agency believes that existing regulations and agency procedures are sufficient to protect trade secret information (See, 18 U.S.C. 1905; Section 15 of the Act, 29 U.S.C. 664; 29 CFR 1903.9; OSHA Field Operations Manual, Ex. 113). Attention has not been drawn by any participant to deficiencies of current agency procedures concerning trade secrets, and the agency sees no need to expand the scope of these administrative regulations beyond the privacy interests involved in personally identifiable medical records (See, HRG, Ex. 167(9-10), pp. 1-2; AFL-CIO, Ex. 152, pp. 60-61; USWA, Ex. 160, p. 17).

Subparagraphs (b)(4)-(b)(6) exclude three situations where agency access to personally identifiable employee medical information need not be regulated by all requirements of these



regulations. Subparagraph (b)(4) excludes situations where OSHA compliance personnel seeks to examine medical records for the sole purpose of verifying employer compliance with mandated recordkeeping requirements. All comprehensive OSHA health standards contain detailed medical surveillance programs with associated recordkeeping provisions (See, 29 CFR 1910.1001-1046). Access to medical records is necessary and appropriate to verify compliance with these requirements, as well as the requirements of 29 CFR 1910.20. No analysis is made of the medical content of the file; rather, the compliance officer checks to see that required data is present in the file. Since no personally identifiable medical information is either substantively reviewed or obtained, and no special qualifications are necessary to carry out this task, it is inappropriate to require the prior approval of the Assistant Secretary and the OSHA Medical Records Officer for these routine inquiries. The final regulations provide that these inquiries "shall be conducted on-site and, if requested, under the observation of the recordholder, and the OSHA compliance personnel shall not record and take off-site any information from medical records other than documentation of the fact of compliance or non-compliance."

Subparagraph (b)(5) excludes "agency access to, or the use of, personally identifiable employee medical information obtained in the course of litigation." These litigation situations, including post-citation discovery requests, will generally be controlled by attorneys in the Office of the Solicitor of Labor or the Department of Justice, and not by the Assistant Secretary. Traditional protective orders and other devices may in specific cases be needed to protect personal privacy, but this is a matter which is best handled through the rules of civil and criminal procedure, and may be the subject of further directives from the Solicitor of Labor.

Subparagraph (b)(6) excludes from these procedural regulations situations "where a written directive by the Assistant Secretary authorizes appropriately qualified personnel to conduct limited reviews of specific medical information mandated by an occupational safety and health standard, or of specific biological monitoring test results." OSHA envisions situations where appropriately trained field personnel should be authorized in general to conduct limited reviews of specific kinds of medical information. Some of this medical information could be part of

a medical surveillance program mandated by a specific occupational safety and health standard. Examples include hemoglobin and kidney function tests required under the OSHA lead standard (See, 29 CFR 1910.1025(j)(3)(ii)), as well as written medical opinions which under the lead standard can serve to initiate special health protection for employees (See, 29 CFR 1910.1025(j)(3)(v), (k)(1)(ii)). In other cases, agency access to specific biological monitoring tests may be extremely important to adequately investigate potential occupational health problems even though the biological monitoring tests were not mandated by existing standards. Possible examples include cholinesterase activity in the blood of pesticides workers, or pulmonary function testing of workers exposed to silica. OSHA may provide its professional personnel with the necessary training either to substantively evaluate these limited test results, or to initially screen them to identify possible problem areas for physicians or other more qualified personnel to review. The agency desires to maintain the flexibility generally to authorize these kinds of limited reviews of medical information, and this is best regulated by written directive by the Assistant Secretary. Where no written directive has been issued, however, these regulations apply.

Finally, subparagraph (b)(7) notes that, "Even if not covered by the terms of this section, all medically related information reported in a personally identifiable form shall be handled with appropriate discretion and care befitting all information concerning specific employees." Due to the personal privacy interests involved, attention is drawn to Freedom of Information Act and Privacy Act regulations (29 CFR 70.26 and 70a.3) which could enable the agency to preclude further disclosure of this information to the public once in the agency's possession. This language in subparagraph (b)(7) will build upon the care which OSHA has historically given to information from and concerning specific employees. Agency personnel protect this information not only due to the inherent privacy interests involved, but also due to other adverse consequences such as possible employment discrimination which could result from an employer's learning the identity of employee sources of information.

#### C. Paragraph (c)—Responsible persons

Paragraph (c), Responsible persons, highlights the special responsibilities of key OSHA personnel to the effectuation of these administrative regulations.

Paragraph (c) is largely a summary of duties established by other paragraphs, but is included to focus attention on the accountability of specific personnel. In this regard, the final regulations have been significantly modified from the draft guidelines. All references to the Director of Field Operations Coordination and a Document Control Officer have been deleted due to the judgment that these provisions added nothing meaningful to current internal agency management structures and responsibilities. OSHA expects that internal agency directives will be issued to add greater specificity to, and implementing mechanisms for, the requirements of these regulations. There is no need to include discussion of this in the body of the regulations, since internal directives already govern the manner in which the agency implements new policy (See, Ex. 190). Detailed provisions in the 'authorized employee' portion of the draft guidelines concerning who may have access to records, security of records, and agency contractors have also been deleted from the "Responsible persons" paragraph, and relocated elsewhere in the regulations.

Paragraph (c) of the final regulations emphasizes the responsibilities of the Assistant Secretary and the OSHA Medical Records Officer. Paragraph (a) indicates that these procedural regulations are based on two central principles. First, there should be a thorough review of all efforts to examine or copy personally identifiable employee medical information before the information is obtained; and second, personally identifiable information must be carefully protected once obtained. The Assistant Secretary is responsible for the overall administration and implementation of these principles. Several participants urged that the Assistant Secretary be personally involved in decisions to seek access to personally identifiable medical information (Weiner, Ex. 9A, p. 44; Stulberg (HRG), Tr. 2040; Seminario (AFL-CIO), Tr. 644; Nat. Steel Corp., Ex. 157, pp. 2-3; USWA, Ex. 160, p. 18; Continental Oil Co., Ex. 167(9-10), p. 2). Since the agency agrees that this involvement would be beneficial, the final regulations provide that the Assistant Secretary is the ultimate decisionmaker concerning requests for OSHA access to employee medical information subject to this section. As provided in the draft guidelines, the Assistant Secretary also makes final OSHA determinations concerning requests for inter-agency transfers or public disclosures of personally

identifiable employee medical information subject to this section.

The OSHA Medical Records Officer (MRO) has been given several key responsibilities in the final regulations. This official is to be designated by the Assistant Secretary and is to report directly to the Assistant Secretary on records access matters. The MRO must make recommendations to the Assistant Secretary on whether to approve or deny written access orders, and will serve as the central reviewer of the sufficiency of these documents and their supporting justifications (paragraph (d)). The MRO is also made responsible for responding to employee, collective bargaining agent, and employer objections to written access orders (paragraph (f)), regulating the use of direct personal identifiers (paragraph (g)), regulating the internal use and security of personally identifiable medical information (paragraphs (h)-(k)), assuring that the results of investigations are communicated to employees (paragraph (k)), preparing an annual report of OSHA's experience under this section (paragraph (1)), and assuring that advance notice is given of intended inter-agency transfers or public disclosures (paragraph (m)).

Similar to the draft guidelines, the final regulations state that the MRO shall be an "OSHA employee with experience or training in the evaluation, use, and privacy protection of medical records." Several participants urged that the position of MRO be limited to physicians, or that the necessary qualifications of the MRO be better defined (UAW, Ex. 165, p. 2; AMA, Ex. 167(9-12), pp. 2-3; Phillips Petroleum Co., Ex. 167(9-23), pp. 2-3; Shell Oil Co., Ex. 167(9-28), p. 3; Dow Chemical Co., Ex. 167(9-41), p. 5). The agency agrees that a senior official with a specialized background should occupy this sensitive position. The agency is not convinced, however, that only physicians could perform the duties of a MRO; thus the regulations are deliberately flexible.

The other person with key responsibilities in each instance of OSHA access to personally identifiable medical information is the person to be designated as the 'Principal OSHA Investigator'. The draft guidelines discussed the duties of an 'authorized employee,' but various participants pointed out that uncertainty existed as to who and how many individuals were responsible for using medical records and preserving their security (ORC, Ex. 159, p. 2; SOHIO, Ex. 167(9-29), p. 2; NIOSH, Ex. 167(9-37), p. 2; HRG, Ex. 167(9-40), pp. 2-3; Dow Corning Co., Ex. 167(9-41), p. 4). To clarify OSHA's

intent, the final regulations fix primary responsibility on the person designated as the Principal OSHA Investigator to assure that the examination and use of personally identifiable medical information is performed in the manner prescribed by these procedural regulations. Other paragraphs establish who else can have access to this medical information, and how the information is to be protected. No significance is attached by the final regulations on who initiated a request to review records. The Principal OSHA Investigator, however, must be professionally trained in medicine, public health or allied fields (epidemiology, toxicology, industrial hygiene, biostatistics, environmental health, etc.) when access is pursuant to a written access order. Several participants urged that this person's qualifications be better defined (Shell Oil Co., Ex. 167(9-28), p. 3; Mid-Atlantic Legal Foundation, Ex. 167(9-32), p. 2). Rather than attempt this in advance, the final regulations opt for a case-by-case assessment of each Principal OSHA Investigator's qualifications as part of the approval criteria for a written access order (*infra*).

#### D. Paragraph (d)—Written access orders

Paragraph (d), Written access orders, establishes the most formal administrative procedure by which OSHA will seek access to personally identifiable employee medical information. With the exception of two circumstances discussed at the end of the paragraph, "each request by an OSHA representative to examine or copy personally identifiable employee medical information contained in a record held by an employer or other recordholder shall be made pursuant to a written access order. \* \* \*

Subparagraph (d)(2) sets criteria to guide the exercise of the agency's discretion to seek access to identifiable medical information, and subparagraph (d)(3) sets forth the content of the written access order. To be valid, a written access order must be approved by the Assistant Secretary upon the recommendation of the OSHA Medical Records Officer. The approval process for a written access order is meant to assure management control over the exercise of OSHA's discretion, and has been structured in a fashion comparable to the approval process for an administrative subpoena. In practice, a written access order may constitute, or be accompanied by, an administrative subpoena.

Subparagraph (d)(2) establishes the substantive criteria which are to guide the Assistant Secretary's discretion in

approving written access orders. First, the Assistant Secretary and the MRO must consider whether the medical information to be examined or copied is "relevant to a statutory purpose and there is a need to gain access to this personally identifiable information." This is at face value less strict than the 'substantial need' requirement of the draft guidelines, and the recommendations of several participants that something more than mere relevance or need should be required (NCCHR, Ex. 2(151), p. 4, Belair (NCCHR), Tr. 1861, 1883; HRG, Ex. 2(161), p. 4; Shell Oil Co., Ex. 167(9-28), p. 4; SOHIO, Ex. 167(9-29), p. 1; SOCMA, Ex. 167(9-36), p. 8; MCA, Ex. 167(9-38), p. 30; Weiner, Ex. 9A, p. 44). Rather than establish rigid or more specific criteria, the final regulations permit case-by-case determinations by the Assistant Secretary and the MRO to assure that access is sought only where there is a genuine need to do so. OSHA believes that a finding of relevance and need by the agency's highest official is a sufficient safeguard against excessive use of the agency's authority to obtain access to personally identifiable employee medical information (*See*, NCCHR, Ex. 2(151), pp. 6-7; Dr. Wegman, Tr. 235; Dr. Whorton, Ex. 11, p. 18; Annas, Tr. 1752-54, 1757-58; Stulberg (HRG), Tr. 2040; USWA, Ex. 160, p. 18; SOCMA, Ex. 167(9-36), p. 8).

Subparagraph (d)(2) next states that consideration must be given to whether the personally identifiable medical information subject to the access order is "limited to only that information needed to accomplish the purpose for access." This will preclude governmental access to the kind of extraneous medical information which the agency can identify in advance as unnecessary to the purpose for access. This requirement follows suggestions that the agency define what medical information is sought, and limit the information sought to just that needed to accomplish the purpose for access (Privacy Commission, Ex. 101, p. 313 (Recommendation No. 11); AMA, Ex. 167(9-12), pp. 2-3; NCCHR, Ex. 2(151), pp. 4-6).

Subparagraph (d)(2) lastly states that the approval process will consider who will substantively review requested records and what their professional qualifications are. The agency's policy is that the personnel authorized to review and analyze the personally identifiable medical information will be "limited to those who have a need for access and have appropriate professional qualifications." As provided by subparagraph (d)(3), the written access

order must list those persons who are expected, at the time the order is written, to review substantively the requested medical information. Other persons, however, may be authorized to review the records at a later time if the need exists (*See infra*). The draft guidelines limited access to physicians or persons under the direct supervision of a physician and trained to evaluate information in medical records (Ex. 167(2), pp. 4, 5). Several participants endorsed these or similar limitations (Ass. Gen. Contractors of Iowa, Ex. 2(3); Cyanamid Co., Ex. 2(102); Dr. Whorton, Ex. 11, p. 18; Samuels (AFL-CIO IUD), Tr. 965-67; Biscuit & Cracker Mfr. Assn., Ex. 167(9-17), p. 2; Borg-Warner Corp., Ex. 167(9-22), p. 2). Having carefully considered the matter, the agency relaxed the language in the final regulations to permit a case-by-case evaluation of the qualifications of authorized reviewers. Without question, access should be limited on a need-to-know basis, and the regulations so provide (*See*, Weiner, Ex. 9A, pp. 45-6). But, the agency does not believe that every conceivable situation of OSHA access requires the direct personal supervision of a physician. Limited medical information like some biological monitoring tests can be easily reviewed and evaluated by a wide range of trained professionals such as epidemiologists, toxicologists, and industrial hygienists (Dr. Wegman, Tr. 245-48). It is to be anticipated that agency review of medical information will often be performed in consultation with agency staff or contract physicians; however, direct personal supervision by the physician will often be unnecessary. As a result, the final regulations permit a case-by-case determination of the qualifications of authorized reviewers.

Paragraph (d)(3) specifies the content of a written access order. The written access order will be presented to the employer and any collective bargaining agent when access is sought, and made available to employees by posting. The written access order is the prime vehicle for informing the employer and employees of the agency's actions and decisionmaking. As a result, the regulations require that the written access order state with reasonable particularity what is being requested and why (*See*, AMA, Ex. 167(9-12), p. 3); whether examination of this information will be conducted on-site and what will be removed off-site; who is authorized to review and analyze the information obtained; who is the OSHA Medical Records Officer; and how long will personally identifiable information likely be retained by the agency. These

matters need only be addressed with reasonable particularity, since absolute precision will often be impossible.

Paragraph (d)(4) establishes two special situations where a written access order need not be obtained for OSHA personnel to gain access to personally identifiable medical information. The first situation where a written access order is unnecessary concerns cases where the specific written consent of an employee is given for OSHA access to his or her medical record. This will occur in such situations as Section 11(c) investigations where the complainant's medical records must be reviewed, or where employees in the course of a complaint inspection desire to have an OSHA official review their medical records. Section 1910.20(e)(2)(ii) of 29 CFR provides the mechanism whereby an employee can release medical records to a designated representative through a specific written consent authorization. If the agency or an OSHA official is listed as a designated representative, then a written access order need not be obtained. Where personally identifiable medical information is received and taken off-site, however, a person must be promptly named to serve as a Principal OSHA Investigator to assure protection of the information, and the MRO notified of this person's identity. Thereafter, the personally identifiable medical information is subject to the use and security requirements of the remainder of the procedural regulations.

The second situation where a written access order need not be obtained concerns physician consultations. As OSHA has acquired staff and contract physicians, situations have arisen where an agency physician was sent to review and discuss a potential problem with an employer's plant physician or corporate medical director. This may be done at the request of the employer. These informal contacts will likely expand in the future. As part of such a professional interaction, employee medical records may be reviewed and discussed with a view towards determining whether a problem actually exists, and if so, what should be done about it. These informal physician contacts can avoid unnecessary full-fledged investigations and focus employer energies on early corrective action where problems are discovered. Until medical information is reviewed and discussed, neither OSHA nor the employer may be aware of the nature or extent of an occupational health problem. OSHA believes that these physician-to-physician contacts should be encouraged, and thus has exempted them from the requirement for

a written access order. The final regulations provide that "No employee medical records, however, shall be taken off-site in the absence of a written access order, and no notes of personally identifiable employee medical information made by the OSHA physician shall leave his or her control without the permission of the OSHA Medical Records Officer."

#### E. Paragraph (e)—*Presentation of written access order and notice to employees*

Paragraph (e) governs the mechanics of presenting a written access order to the employer and notifying employees of its existence. In practice, the written access order may constitute, or may be accompanied by, an administrative subpoena. As suggested, the final regulations provide that a copy of the written access order shall be provided to the employer (SOCMA, Ex. 167(9-36), p. 9; DuPont, Ex. 150, p. 18). An accompanying cover letter must also be provided which summarizes the requirements of this section and indicates that questions or objections concerning the written access order may be directed to the Principal OSHA Investigator or to the OSHA Medical Records Officer. Two copies of these documents must be provided so that one copy of each may be prominently posted as required by 29 CFR 1910.20(e)(3)(ii). The copy to be posted shall not identify specific employees by direct personal identifier (name, etc.). Posting at the workplace will serve to notify employees of what OSHA is doing with their medical records and why, and will let them know that they can lodge objections if they so desire. In addition, the regulations provide that a copy of these two documents shall be promptly provided "to each collective bargaining agent representing employees whose medical records are subject to the written access order." Union officials can be expected to communicate the nature of OSHA's actions to their members, and lodge objections or inquiries if any arise.

The draft guidelines provided for individual notice to employees by certified mail on each occasion that access was sought (Ex. 167(2), pp. 5-6). The final regulations delete this requirement due to the agency's judgment that individual notice would often be unnecessary and overly burdensome. As pointed out by several participants, the administrative and technical costs involved in individual notice are similar to those involved in seeking employee consent (HRG, Ex. 167(9-40), p. 4; NIOSH, Ex. 167(9-37), p. 2). Also, in most cases, posting and

notice to both the employer and union representatives will be fully adequate to inform all employees of OSHA's actions. One significant purpose for notifying employees is to assure that governmental actions are conducted openly to enable interested employees to scrutinize OSHA's actions and complain if they feel the agency is acting improperly. Individual notice to each and every employee will often not be necessary to accomplish this objective. The regulations do, however, contemplate that individual notice may be appropriate in some circumstances. To address this possibility, the regulations provide:

The Principal OSHA Investigator shall discuss with any collective bargaining agent and with the employer the appropriateness of individual notice to employees affected by the written access order. Where it is agreed that individual notice is appropriate, the Principal OSHA Investigator shall promptly provide to the employer an adequate number of copies of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to enable the employer either to individually notify each employee or to place a copy in each employee's medical file.

Employers have ready means available to distribute the written access order, such as with the next employee paycheck or at the beginning or end of a work shift. The regulations opt to use these vehicles to notify employees individually where there is mutual agreement of a need to do so.

**F. Paragraph (f)—Objections concerning a written access order**

Although OSHA does not believe that agency access to employee medical information should depend upon employee consent, OSHA recognizes that it is important that employee objections concerning OSHA access be carefully considered. Paragraph (f) provides that all written employee, collective bargaining agent, and employer objections shall be transmitted to the OSHA Medical Records Officer. Paragraph (l) provides that these objections be discussed in the MRO's annual report. The making of an objection by an employee, collective bargaining agent, or employer does not operate to postpone operation of the written access order. Unless the agency decides otherwise, access to the records shall proceed without delay notwithstanding the objection. Paragraph (f) mandates, however, that the MRO respond in writing to each employee's and collective bargaining agent's written objection concerning OSHA access. Because of an employer's different legal status and relationship to

the medical information, a written response to an employer objection is discretionary. A formal written response to the objection will enable a complete reconsideration of the written access order. OSHA recognizes that there may be situations where the agency made a mistake or proceeded on the basis of incomplete information such that the written access order should be revoked. The MRO is the appropriate person to make this decision. The final regulations therefore provide:

Where appropriate, the OSHA Medical Records Officer may revoke a written access order and direct that any medical information obtained by it be returned or destroyed. The Principal OSHA Investigator shall assure that the instructions of the OSHA Medical Records Officer are promptly implemented.

The draft guidelines also include (1) a waiting period after an access order was presented before OSHA would seek to examine requested records, (2) an automatic reconsideration procedure if an employer or employee objected to OSHA access, and (3) a commitment to treat employer refusals of access as a denial of the right of entry under *Marshall v. Barlow's, Inc.*, 436 U.S. 307 (1978) (Ex. 167(2), p. 6). With the exception of the required review by the OSHA Medical Records Officer of written objections by employees and collective bargaining agents, the final regulations do not mandate that these steps be followed in each case. The presumption of the regulations is that the agency will proceed without delay notwithstanding an objection, although OSHA retains the discretion not to proceed immediately. In the absence of a significant initial union, employee or employer objection, there would be little justification for a substantial waiting period. On the other hand, significant initial objections could cause OSHA to redefine, reaffirm, or withdraw its request for access before records are examined. The possible situations are so numerous and varied that OSHA does not believe it is advisable to limit in advance what the agency responses could be, or to create an explicit or implied obligation on the agency's part to automatically delay execution of a written access order. In light of *Marshall v. Barlow's, Inc.*, *supra*, OSHA also recognizes that its right of access to records may often not be directly enforceable absent a warrant or administrative subpoena. This is a rapidly evolving area of the law; thus it is not possible to state in advance precisely what legal recourse OSHA will seek if faced with a refusal to permit access.

**G. Paragraph (g)—Removal of direct personal identifiers**

Subparagraph (h)(5) of the regulations, *infra*, will serve to prevent the agency from unnecessarily obtaining and taking off-site medical information having direct personal identifiers. Where it is necessary to take direct personal identifiers off-site, there will likely be situations where the direct personal identifiers are not continuously needed to permit use of the medical information. For example, direct identifiers may only be needed to permit follow-up at the conclusion of evaluation of medical information. The draft guidelines gave no special protection to direct personal identifiers, but several participants recommended a system of stripping direct personal identifiers, coding the medical information and the direct personal identifiers with a unique code, and maintaining the list of coded personal identifiers apart from the coded medical information (AMRA, Ex. 82, pp. 4, 7, Tr. 2466-67; NCCHR, Ex. 2(151), p. 4, Tr. 1864, 1875-78; Dr. Givens (Cal. Med. Assn.), Tr. 1713-18; Sterling Drug Co., Ex. 167(9-18), p. 2). OSHA believes this to be a sound mechanism to maximize the protection of employee privacy and to minimize possible misuse of personally identifiable medical information. Paragraph (g) of the final regulations incorporates this approach.

Except as authorized by the MRO, direct personal identifiers (name, address, social security number, payroll number, etc.) must be promptly separated from medical information whenever direct identifiers are obtained and taken off-site pursuant to a written access order. The Principal OSHA Investigator is directed to code the medical information and the list of direct personal identifiers with a unique identifying number for each employee, and then hand deliver or mail the list of coded identifiers to the MRO. The MRO thereafter controls use and distribution of the list of coded identifiers to those with a need to know its contents. In addition, the numerically coded medical information is to be used and kept secured as though still in a directly identifiable form.

**H. Paragraph (h)—Internal agency use of personally identifiable employee medical information**

Paragraph (h) establishes who can have access to personally identifiable employee medical information once it is brought into the agency. Numerous participants favored limiting internal access to the smallest number of individuals possible (See, UAW, Ex. 165, p. 2; SOCMA, Ex. 167(9-36), p. 10; ORC,

Ex. 159, p. 2; Dow Chemical Co., Ex. 167(9-41), p. 4; Continental Oil Co., Ex. 167(9-10), p. 2; USWA, Ex. 160, pp. 18-19), although there was recognition that such personnel as supervised abstracters and clericals may have a need for access (NIOSH, Ex. 167(9-37), pp. 1-2; Weiner, Ex. 9A, p. 45; Dr. Whorton, Ex. 11, p. 19, Tr. 305; USWA, Ex. 160, pp. 18-19). The final regulations limit access to those with a need to know and appropriate qualifications, and fix responsibility on key officials to regulate all internal access.

Subparagraph (h)(1) provides that "The Principal OSHA Investigator shall in each instance of access be primarily responsible for assuring that personally identifiable employee medical information is used and kept secured in accordance with this section." Clear accountability is thus primarily fixed on one person in each instance of access for assuring that, in practice, medical information is properly used and kept secured (See, Ex. 167(2), p. 4).

Subparagraph (h)(2) regulates who has the authority to permit the examination and use of personally identifiable employee medical information. The Principal OSHA Investigator, the OSHA Medical Records Officer, the Assistant Secretary, and any other authorized person listed on a written access order are the only individuals who can permit the examination of the information. They are responsible for assuring that, in addition to those listed on the written access order, no one is permitted to examine or use this information other than agency employees and contractors who have a need for access and appropriate qualifications for the purpose for which they are using the information. No OSHA employee or contractor is authorized to examine or otherwise use this information unless so permitted. This need-to-know criterion is necessarily flexible so that supervised clerical and other similar uses are not categorically forbidden, but at the same time the criteria is meant to preclude unauthorized and unsupervised access. The draft guidelines contained a similar need-to-know requirement (Ex. 167(2), p. 7).

As was the case with the draft guidelines (Ex. 167(2), p. 4), the final regulations permit access by attorneys in the Office of the Solicitor of Labor and by independent agency contractors on a need-to-know basis. In most instances, the only contractors having a need for access to personally identifiable medical information would be contract physicians, who already would be under legal and ethical

obligations to protect confidential medical information. Where other contractors are permitted to use this information, they must contractually agree to abide by the requirements of this section and any implementing agency directives and instructions (See, Dr. Wegman, Tr. 236-37; Bridbord (NIOSH), Ex. 22, p. 6; NIOSH, Ex. 107D).

Subparagraph (h)(4) provides that "OSHA employees and contractors are only authorized to use personally identifiable employee medical information for the purposes for which it was obtained, unless the specific written consent of an employee is obtained as to a secondary purpose, or the procedures of paragraphs (d)-(g) of this section are repeated with respect to the secondary purpose." This provision serves to preclude secondary agency uses of personally identifiable employee medical information (See, NCCHR, Ex. 58, p. 46; Ex. 167(2), p. 7), unless a new written access order is obtained, or employees consent to a new use.

Finally, subparagraph (h)(5) provides that "Whenever practicable, the examination of personally identifiable employee medical information shall be performed on-site with a minimum of personally identifiable medical information to be taken off-site." No similar requirement was in the draft guidelines, but the agency felt it was beneficial to add this provision. Unlike the case with NIOSH or other research agencies, OSHA anticipates that it will not normally be necessary for OSHA to microfilm or otherwise copy entire medical records and then later abstract relevant information. The requirement that a minimum of personally identifiable medical information be taken off-site also recognizes that OSHA access to identifiable records may sometimes be for the sole purpose of stripping identifiers so that all medical information obtained is not in a directly identifiable form. Where this can reasonably be performed on-site, OSHA will do so.

#### **I. Paragraph (i)—Security procedures**

Paragraph (i) of the final regulations establishes security procedures to govern internal agency use of personally identifiable employee medical information. As was the case with the draft guidelines (Ex. 167(2), p. 7), the final regulations provide for segregation of agency files containing this information, and require that these agency files be kept secured in a locked cabinet or vault when not in active use (See, Dow Chemical Co., Ex. 167(9-14), p. 6). The OSHA Medical Records Officer and the Principal OSHA Investigator are each required to

maintain a log of uses and transfers of this medical information and lists of coded direct personal identifiers, except as to necessary uses by staff under their direct personal supervision (See, Ex. 167(2), p. 7; Dow Chemical Co., Ex. 167(9-41), p. 6; NIOSH, Ex. 167(9-37), p. 3). As was the case with the draft guidelines (Ex. 167(2), p. 8), the final regulations permit photocopying of covered records, but all forms of duplication "shall be kept to the minimum necessary to accomplish the purposes for which the information was obtained." The final regulations also recognize that agency personnel may create worksheets or other similar documents which contain personally identifiable employee medical information. In light of this, subparagraph (i)(4) provides that all protective measures established by this section apply to these worksheets, as well as duplicate copies or other agency documents containing personally identifiable employee medical information.

Finally, subparagraph (i)(5), as was the case in the draft guidelines, stipulates that intra-agency transfers of personally identifiable employee medical information must be by hand delivery, United States mail, or equally protective means, and not by inter-office mailing channels (Ex. 167(2), p. 7).

The final regulations omit provisions concerning computerized records or supplemental security procedures (Ex. 167(2), p. 8) since (1) OSHA does not currently contemplate situations where OSHA would computerize personally identifiable medical information, and (2) supplemental security procedures do not depend on any authorizing language in these regulations. Additional directives on the security of personally identifiable employee medical information will be issued as needed.

#### **J. Paragraph (j)—Retention and destruction of records**

The draft guidelines provided for early destruction of personally identifiable information when the original purposes for access had been accomplished (Ex. 167(2), p. 8). Several participants urged that this information not be retained any longer than necessary (Mobay Chemical Corp., Ex. 2(97), p. 5; HRC, Ex. 2(161), p. 4; Stulberg (HRC), Tr. 2041; DuPont, Ex. 150, pp. 19-20; Dow Chemical Co., Ex. 167(9-41), p. 6). OSHA agrees that personally identifiable information (including lists of coded direct personal identifiers) should be destroyed or returned to the original recordholder when no longer needed for the purposes for which it was obtained. The final regulations so



provide in subparagraph (k)(1), subject to applicable agency records disposition programs. OSHA, as are other Federal agencies, is subject to several statutes and implementing regulations governing the disposal of records received in connection with the transaction of public business (*See*, 44 U.S.C. 2901-3324; 41 CFR 101-11.4). The agency has a formal records disposition program which may need to be modified to facilitate early destruction of personally identifiable medical information, and the agency intends to pursue this during the implementation of the procedural regulations.

OSHA can contemplate situations where personally identifiable medical information, after its initial utility, need not be used again until some time in the future. For example, medical information upon which a citation is based may be used during the hearing stage of an enforcement case. The medical information may not be utilized while the case is on appeal, but there may be a need for the information if the case is remanded for further proceedings. Similarly, an investigation of an apparently new health hazard may produce uncertain results. Before completely closing out this investigation, it may be appropriate to await the outcome of an ongoing research study or parallel investigation elsewhere in the country. In these cases, the regulations provide that the medical information is to be transferred to the OSHA Medical Records Officer. And, as suggested by one participant (*Nat. Steel Corp.*, Ex. 165, p. 3), the MRO is directed to "conduct an annual review of all centrally-held information for the purpose of determining which information is no longer needed for the purposes for which it was obtained."

**K. Paragraph (k)—Results of an agency analysis using personally identifiable employee medical information**

The draft guidelines were silent on the issue of individual notification to employees of the results of OSHA analyses using personally identifiable employee medical information. Several participants urged that individual notice to each employee should be incorporated in the procedural regulations (*DuPont Co.*, Ex. 150, p. 22; *Dr. Whorton*, Ex. 11, pp. 18-19; *NIOSH*, Ex. 167 (9-37), p. 2). In many cases, employees will learn the results of an OSHA investigation through a closing conference or informal post-inspection conference with union representatives, through the posting of a citation, or by calling the relevant OSHA Area Office. In other kinds of investigations similar to a NIOSH Health Hazard Evaluation

or Field Study where disease is diagnosed in specific employees, individual notification might be essential (*See*, 41 CFR 85.11, 85a.8; Ex. 20, 21). OSHA believes that it is best to permit a case-by-case consideration of the need for individual notification. Accordingly, the final regulations provide that "The OSHA Medical Records Officer shall, as appropriate, assure that the results of an agency analysis using personally identifiable employee medical information are communicated to the employees whose personal medical information was used as part of the analysis."

**L. Paragraph (1)—Annual report**

The draft guidelines provided for a semi-annual report by the OSHA Medical Records Officer to the Assistant Secretary concerning OSHA's medical records access experience (Ex. 167 (2), p. 3). The final regulations continue this requirement in paragraph (1), but changes it to an annual report. The report must be made available to the public, and must discuss the number of written access orders and their purposes, the nature and disposition of employee, collective bargaining agent, and employer written objections, and the nature and disposition of requests for inter-agency transfer or public disclosure of personally identifiable employee medical information. This annual report will serve to focus the attention of the Assistant Secretary and interested members of the public on OSHA's use of personally identifiable employee medical information.

**M. Paragraph (m)—Inter-agency transfer and public disclosure**

The draft guidelines contained limitations on inter-agency sharing and public disclosure of employee medical records (Ex. 167 (2), pp. 8-11). Several participants argued that personally identifiable employee medical information should practically never be shared or disclosed without employee consent, even for public health purposes (*HRG*, Ex. 2 (161), p. 4, Tr. 2041, Ex. 167 (9-40), pp. 3-4; *NCCHR*, Ex. 2 (151), p. 8; *Continental Oil Co.* Ex. 167 (9-10), p. 2; *Caterpillar Tractor Co.*, Ex. 167 (9-21), p. 3; *SOHIO*, Ex. 167 (9-29), p. 2). Other participants could accept strictly controlled inter-agency sharing for public health purposes (*Weiner*, Ex. 9A, p. 45; *USWA*, Ex. 160, p. 18; *AMA*, Ex. 167 (9-12), pp. 4-5). All participants, however, were concerned that personally identifiable medical information not be shared or disclosed in a manner which could adversely affect subject employees (*Becker*

(*USWA*), Tr. 2390; *Belair* (*NCCHR*), Tr. 1862-63, *NCCHR*, Ex. 2 (151), pp. 2, 8).

OSHA agrees that inter-agency transfer and public disclosure of medical information should be carefully controlled, and paragraph (m) governs these issues. Inter-agency transfer and public disclosure are not categorically forbidden by the final regulations, however, because (1) the agency may not legally make such a commitment, and (2) situations may arise where transfer or disclosure is appropriate. Situations could conceivably arise where OSHA as a matter of law was compelled to transfer information to another agency or disclose it to a non-governmental individual. An example might be a General Accounting Office investigation, or where there is a compelling public interest in disclosure of medical information to which no significant privacy expectation attaches (e.g., cause of death). The final regulations establish strict criteria as to when inter-agency transfer or public disclosure of personally identifiable employee medical information may occur. Except when required by law, all inter-agency transfer or public disclosure of this information must be approved by the Assistant Secretary in accordance with these criteria. OSHA employees may, however, transfer or disclose aggregate employee medical information or medical information on individual employees which is not in a personally identifiable form.

Subparagraph (m)(2) governs the approval of an inter-agency transfer of personally identifiable employee medical information which has not been consented to by affected employees. First, transfer will only be permitted to a public health agency (such as EPA, CPSC, FDA, etc.) for a substantial public health purpose. Second, the recipient agency must have a demonstrable need for the medical information in a personally identifiable form. Third, the recipient agency may not use the requested information to make individual determinations concerning affected employees which could be to their detriment. Fourth, the recipient agency must have regulations or established written procedures which provide protection to privacy interests substantially equivalent to that of OSHA's procedures. And fifth, the requested transfer must satisfy an exemption to the Privacy Act to the extent that the Privacy Act applies to the requested information.

These five limitations on inter-agency transfer follow several of the suggestions of rulemaking participants. Since OSHA collects medical

information only for a public health purpose, it is appropriate to restrict all subsequent discretionary agency transfers to those with an equally clear public health purpose. The recipient agency's privacy protections must be as protective as OSHA's, but are not required to be identical since agencies vary significantly in their management structures and modes of operation. Unlike the draft guidelines, the final regulations attach no special status to an agency memorandum of understandings (USWA, Ex. 160, pp. 18-19; SOCMA, Ex. 167(9-36), p. 2; HRG, Ex. 167(9-40), pp. 4-5). This form of formal agreement may in specific cases satisfy several of the five criteria for approval of inter-agency sharing, but OSHA believes it to be important to consider each request for inter-agency transfer individually rather than as part of some comprehensive agreement.

The fifth and last limitation on inter-agency transfer concerns the Privacy Act, which would protect personally identifiable medical information which is part of a "system of records" as defined in paragraph (a)(5) of that Act (5 U.S.C. 552a(a)(5); 29 CFR 70a.2). The Privacy Act prohibits inter-agency transfers of covered records unless one of several exemptions is met (5 U.S.C. 552a(b), 29 CFR 70a.3). The two exemptions which could most likely pertain to employee medical information held by OSHA would be exemption (7) governing civil and criminal law enforcement, and exemption (8) governing compelling circumstances affecting the health or safety of an individual (5 U.S.C. 552a(b)(7), (8); 29 CFR 70a.3(e)(vii), (xi)). Thus, unless one of these two narrow exemptions is met, the Privacy Act where applicable serves to further prevent the discretionary inter-agency transfer of personally identifiable employee medical information. To the extent that the Privacy Act does not apply to a particular record covered by these regulations, the Assistant Secretary could share that information with another Federal agency without regard to the Privacy Act exceptions. The four preceding limitations would apply to the transfer, however.

Subparagraph (m)(3) contains two exceptions to the requirements of subparagraph (m)(2). First, upon the approval of the Assistant Secretary, personally identifiable employee medical information may be shared with NIOSH. NIOSH is a sister public health agency to OSHA and its research activities complement OSHA's regulatory responsibilities. The two agencies are increasingly attempting to

coordinate their activities and maintain close professional staff contacts. OSHA's ability to analyze employee medical information will often be improved by gaining NIOSH's assistance, and medical information collected by OSHA for one purpose may have major research value to NIOSH. Subparagraph (m)(3) is meant to permit sharing medical information with NIOSH in these circumstances. In the judgment of OSHA, NIOSH has, due to its frequent use of medical records, developed and demonstrated appropriate sensitivity to the privacy interests involved with employee medical records. As a result, identifiable medical information may be transferred to NIOSH upon the approval of the Assistant Secretary, without further inquiry into the sufficiency of their programs for protecting medical records.

Subparagraph (m)(3) also permits, upon the approval of the Assistant Secretary, the inter-agency transfer of personally identifiable employee medical information to the Department of Justice when necessary with respect to a specific action under the Occupational Safety and Health Act. For example, the Justice Department prosecutes criminal violations of the Act (See, s17(e)-(h), 29 U.S.C. 666) as well as civil penalty collection actions (See, Section 17(1), 29 U.S.C. 666(k)). The Justice Department also represents OSHA in Freedom of Information Act (FOIA) suits. Personally identifiable employee medical information may, on occasion, be relevant to these proceedings, and OSHA must necessarily share this information in these circumstances. While medical information obtained in the course of litigation is already exempt from these regulations, this additional language makes it clear that medical information collected for other purposes, but which becomes necessary for litigation in which the Department of Justice is involved, may be transferred to the Department.

Subparagraphs (m)(4) and (5) govern public disclosure of personally identifiable employee medical information which has not been consented to by affected employees. Exemption (6) of the Freedom of Information Act (FOIA) authorizes OSHA to withhold personally identifiable information where its disclosure would constitute a clearly unwarranted invasion of personal privacy (5 U.S.C. 552(b)(6)). The Department of Labor's implementing regulations broadly construes this exemption and treats medical records as presumptively non-disclosable (29 CFR

70.26). It is OSHA's judgment that where identifiable medical records are concerned, disclosure will necessarily impede OSHA's functions. OSHA's access to necessary medical information depends on protecting personal privacy, and OSHA's overall success as a public agency depends on employee and public confidence in the agency's discharge of its functions in a manner sensitive to individual rights. These considerations dictate that identifiable medical information not be disclosed absent compelling circumstances, even though the Department of Labor's FOIA regulations otherwise encourage the release of exempt information where disclosure will not impede the discharge of agency functions (29 CFR 70.11(b)).

Accordingly, subparagraph (m)(4) provides that "The Assistant Secretary shall not approve a request for public disclosure of employee medical information containing direct personal identifiers unless there are compelling circumstances affecting the health or safety of an individual." The "compelling circumstances" exception is meant to be extremely limited in nature, and parallels exemption (8) of the Privacy Act (5 U.S.C. 552a(b)(8); 29 CFR 70a.3(e)(xi)). In addition, subparagraph (m)(5) concerns employee medical information which contains information which could reasonably be used indirectly to identify specific employees, and provides that this shall not be disclosed to the public if to do so would constitute a clearly unwarranted invasion of personal privacy. Together, these subparagraphs express OSHA's intent to deny requests for public disclosure of personally identifiable employee medical information, unless there are compelling countervailing circumstances relating to health and safety.

Subparagraph (m)(6) governs the issue of notice when OSHA intends to transfer personally identifiable employee medical information to another agency or disclose it to a member of the public other than to an affected employee. The draft guidelines provided for written notice to the employer and to affected employees (Ex. 167(2), pp. 9, 10). Several participants stressed the importance of notice (Sterling Drug Co., Ex. 167(9-18), p. 1; Phillips Petroleum Co., Ex. 167(9-23), p. 2; Shell Oil Co., Ex. 167(9-28), p. 4; SOHIO, Ex. 167(9-29), p. 2; MCA, Ex. 167(9-38), p. 31; Dow Chemical Co., Ex. 167(9-41), p. 7. The final regulations delete the rigid time requirements of the draft guidelines, but provide that the OSHA Medical Records Officer shall assure that advance notice is provided

to any collective bargaining agent representing affected employees and to the employer, except with respect to transfers to NIOSH or to the Department of Justice. Where the intended inter-agency transfer or public disclosure contains direct personal identifiers, the OSHA Medical Records Officer must also, when feasible, take reasonable steps to assure that affected employees are notified. In the case of release of information pursuant to exemption (8) of the Privacy Act, the Act itself requires notification of individuals upon the disclosure.

As a final matter, several participants urged that the final regulations explicitly discuss penalties to be assessed against OSHA employees who violate these regulations (AMRA, Ex. 82, pp. 4-5; API, Ex. 158, p. 42; Ohio Bldg. Cht., Ex. 167(9-3), p. 1; SOCMA, Ex. 167(9-36), p. 5; HRC, Ex. 167(9-40), p. 5; Dow Chemical Co., Ex. 167(9-41), p. 4.) The draft guidelines contained no provisions on this topic, and having considered the matter, the agency declined to explicitly address this topic in the final regulations.

OSHA agrees that agency employees must be made aware of these regulations, and that public confidence in OSHA will depend on strict enforcement of these regulations. It is not necessary, however, that penalty procedures be discussed in the regulations. All Department of Labor employees are given an "Employee Handbook" (Ex. 191). Chapter 23 of this handbook, "Standards of Conduct," briefly discusses the Department's longstanding regulations governing employee conduct (Ex. 191, p. 55). These ethics and conduct regulations are given to new employees, and each current employee is reminded of them on an annual basis (29 CFR 0.735-2(b); Ex. 191, p. 81). These regulations provide:

Failure of an employee to comply with any of the standards of conduct set forth in this part shall be a basis for such disciplinary or other remedial action as may be appropriate to the particular case. (29 CFR 0.735-3(a); Ex. 191, p. 81)

Employees may not, except with specific permission \* \* \* directly or indirectly use or allow the use of official information for private purposes or to further a private interest when such information is not available to the general public; nor may employees disclose official information in violation of any applicable law, Executive order, or regulation. (29 CFR 0.735-8; Ex. 191, p. 83)

The effectiveness of the Department of Labor in serving the public interest depends upon the extent to which the Department and its employees hold the public confidence. Employees are therefore required not only to observe the requirements of Federal laws,

policies, orders, and regulations governing official conduct, they must also avoid any apparent conflict with these requirements. (29 CFR 0.735-4(a); Ex. 191, pp. 81-82)

These existing provisions, in conjunction with Office of Personnel Management and Department of Labor procedures for disciplinary actions, are adequate to deal with misuse of employee medical records by OSHA employees. Other forms of punishment, such as criminal penalties beyond the existing criminal provisions of the Privacy Act, are matters for Congress to address (See, HRG, Ex. 2(161), pp. 4-5).

#### IV. Authority, Signature, and the Regulations

This document was prepared under the direction of Eula Bingham, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210.

The Federal Register has been requested to officially file this document at 1 p.m. E.D.T. on May 21, 1980, which shall be the time of issuance of this document as provided by 29 CFR 1911.18. The time of issuance is the earliest moment that petitions for judicial review may be filed.

Accordingly, pursuant to sections 8(c) and 8(g) of the Occupational Safety and Health Act of 1970 (84 Stat. 1599, 1600; 29 U.S.C. 657), Section (e) of the Privacy Act (5 U.S.C. 552a(e)), and the government's general housekeeping statute (5 U.S.C. 301), Chapter XVII of Title 29, the Code of Federal Regulations, is hereby amended by adding a new Part 1913.

Signed at Washington, D.C., this 14th day of May, 1980.

Eula Bingham,

Assistant Secretary of Labor.

A new Part 1913 is added to Title 29 of the Code of Federal Regulations (CFR), consisting of §1913.10, reading as follows:

#### **PART 1913—RULES OF AGENCY PRACTICE AND PROCEDURE CONCERNING OSHA ACCESS TO EMPLOYEE MEDICAL RECORDS**

Sec.

1913.10 Rules of agency practice and procedure concerning OSHA access to employee medical records.

Authority: Secs. 8(c) and 8(g) (84 Stat. 1599, 1600; 29 U.S.C. 657), section (e) of the Privacy Act (88 Stat. 1899, 1900; 5 U.S.C. 552a(e)), and 5 U.S.C. 301 (80 Stat. 379).

§ 1913.10 Rules of agency practice and procedure concerning OSHA access to employee medical records.

(a) *General policy.* OSHA access to employee medical records will in certain

circumstances be important to the agency's performance of its statutory functions. Medical records, however, contain personal details concerning the lives of employees. Due to the substantial personal privacy interests involved, OSHA authority to gain access to personally identifiable employee medical information will be exercised only after the agency has made a careful determination of its need for this information, and only with appropriate safeguards to protect individual privacy. Once this information is obtained, OSHA examination and use of it will be limited to only that information needed to accomplish the purpose for access. Personally identifiable employee medical information will be retained by OSHA only for so long as needed to accomplish the purpose for access, will be kept secure while being used, and will not be disclosed to other agencies or members of the public except in narrowly defined circumstances. This section establishes procedures to implement these policies.

(b) *Scope and application.* (1) Except as provided in paragraphs (b)(3)-(b)(6) below, this section applies to all requests by OSHA personnel to obtain access to records in order to examine or copy personally identifiable employee medical information, whether or not pursuant to the access provisions of 29 CFR 1910.20(e).

(2) For the purposes of this section, "personally identifiable employee medical information" means employee medical information accompanied by either direct identifiers (name, address, social security number, payroll number, etc.) or by information which could reasonably be used in the particular circumstances indirectly to identify specific employees (e.g., exact age, height, weight, race, sex, date of initial employment, job title, etc.).

(3) This section does not apply to OSHA access to, or the use of, aggregate employee medical information or medical records on individual employees which is not in a personally identifiable form. This section does not apply to records required by 29 CFR Part 1904, to death certificates, or to employee exposure records, including biological monitoring records treated by 29 CFR 1910.20(c)(5) or by specific occupational safety and health standards as exposure records.

(4) This section does not apply where OSHA compliance personnel conduct an examination of employee medical records solely to verify employer compliance with the medical surveillance recordkeeping requirements of an occupational safety and health standard, or with 29 CFR 1910.20. An



examination of this nature shall be conducted on-site and, if requested, shall be conducted under the observation of the recordholder. The OSHA compliance personnel shall not record and take off-site any information from medical records other than documentation of the fact of compliance or non-compliance.

(5) This section does not apply to agency access to, or the use of, personally identifiable employee medical information obtained in the course of litigation.

(6) This section does not apply where a written directive by the Assistant Secretary authorizes appropriately qualified personnel to conduct limited reviews of specific medical information mandated by an occupational safety and health standard, or of specific biological monitoring test results.

(7) Even if not covered by the terms of this section, all medically related information reported in a personally identifiable form shall be handled with appropriate discretion and care befitting all information concerning specific employees. There may, for example, be personal privacy interests involved which militate against disclosure of this kind of information to the public (*See*, 29 CFR 70.26 & 70a.3).

(c) *Responsible persons.* (1) *Assistant Secretary.* The Assistant Secretary of Labor for Occupational Safety and Health (Assistant Secretary) shall be responsible for the overall administration and implementation of the procedures contained in this section, including making final OSHA determinations concerning:

(i) Access to personally identifiable employee medical information (paragraph (d)), and

(ii) Inter-agency transfer or public disclosure of personally identifiable employee medical information (paragraph (m)).

(2) *OSHA Medical Records Officer.* The Assistant Secretary shall designate an OSHA official with experience or training in the evaluation, use, and privacy protection of medical records to be the OSHA Medical Records Officer. The OSHA Medical Records Officer shall report directly to the Assistant Secretary on matters concerning this section and shall be responsible for:

(i) Making recommendations to the Assistant Secretary as to the approval or denial of written access orders (paragraph (d)),

(ii) Assuring that written access orders meet the requirements of paragraphs (d)(2) and (d)(3) of this section,

(iii) Responding to employee, collective bargaining agent, and

employer objections concerning written access orders (paragraph (f)),

(iv) Regulating the use of direct personal identifiers (paragraph (g)),

(v) Regulating internal agency use and security of personally identifiable employee medical information (paragraphs (h)-(j)),

(vi) Assuring that the results of agency analyses of personally identifiable medical information are, where appropriate, communicated to employees (paragraph (k)),

(vii) Preparing an annual report of OSHA's experience under this section (paragraph (l)), and

(viii) Assuring that advance notice is given of intended inter-agency transfers or public disclosures (paragraph (m)).

(3) *Principal OSHA Investigator.* The Principal OSHA Investigator shall be the OSHA employee in each instance of access to personally identifiable employee medical information who is made primarily responsible for assuring that the examination and use of this information is performed in the manner prescribed by a written access order and the requirements of this section (paragraphs (d)-(m)). When access is pursuant to a written access order, the Principal OSHA Investigator shall be professionally trained in medicine, public health, or allied fields (epidemiology, toxicology, industrial hygiene, biostatistics, environmental health, etc.).

(d) *Written access orders.* (1) *Requirement for written access order.* Except as provided in paragraph (d)(4) below, each request by an OSHA representative to examine or copy personally identifiable employee medical information contained in a record held by an employer or other recordholder shall be made pursuant to a written access order which has been approved by the Assistant Secretary upon the recommendation of the OSHA Medical Records Officer. If deemed appropriate, a written access order may constitute, or be accompanied by, an administrative subpoena.

(2) *Approval criteria for written access order.* Before approving a written access order, the Assistant Secretary and the OSHA Medical Records Officer shall determine that:

(i) The medical information to be examined or copied is relevant to a statutory purpose and there is a need to gain access to this personally identifiable information,

(ii) The personally identifiable medical information to be examined or copied is limited to only that information needed to accomplish the purpose for access, and

(iii) The personnel authorized to review and analyze the personally identifiable medical information are limited to those who have a need for access and have appropriate professional qualifications.

(3) *Content of written access order.* Each written access order shall state with reasonable particularity:

(i) The statutory purposes for which access is sought,

(ii) A general description of the kind of employee medical information that will be examined and why there is a need to examine personally identifiable information,

(iii) Whether medical information will be examined on-site, and what type of information will be copied and removed off-site,

(iv) The name, address, and phone number of the Principal OSHA Investigator and the names of any other authorized persons who are expected to review and analyze the medical information.

(v) The name, address, and phone number of the OSHA Medical Records Officer, and

(vi) The anticipated period of time during which OSHA expects to retain the employee medical information in a personally identifiable form.

(4) *Special situations.* Written access orders need not be obtained to examine or copy personally identifiable employee medical information under the following circumstances:

(i) *Specific written consent.* If the specific written consent of an employee is obtained pursuant to 29 CFR 1910.20(e)(2)(ii), and the agency or an agency employee is listed on the authorization as the designated representative to receive the medical information, then a written access order need not be obtained. Whenever personally identifiable employee medical information is obtained through specific written consent and taken off-site, a Principal OSHA Investigator shall be promptly named to assure protection of the information, and the OSHA Medical Records Officer shall be notified of this person's identity. The personally identifiable medical information obtained shall thereafter be subject to the use and security requirements of paragraphs (h)-(m) of this section.

(ii) *Physician consultations.* A written access order need not be obtained where an OSHA staff or contract physician consults with an employer's physician concerning an occupational safety or health issue. In a situation of this nature, the OSHA physician may conduct on-site evaluation of employee medical records in consultation with the

employer's physician, and may make necessary personal notes of his or her findings. No employee medical records, however, shall be taken off-site in the absence of a written access order or the specific written consent of an employee, and no notes of personally identifiable employee medical information made by the OSHA physician shall leave his or her control without the permission of the OSHA Medical Records Officer.

(e) *Presentation of written access order and notice to employees.* (1) The Principal OSHA Investigator, or someone under his or her supervision, shall present at least two (2) copies each of the written access order and an accompanying cover letter to the employer prior to examining or obtaining medical information subject to a written access order. At least one copy of the written access order shall not identify specific employees by direct personal identifier. The accompanying cover letter shall summarize the requirements of this section and indicate that questions or objections concerning the written access order may be directed to the Principal OSHA Investigator or to the OSHA Medical Records Officer.

(2) The Principal OSHA Investigator shall promptly present a copy of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to each collective bargaining agent representing employees whose medical records are subject to the written access order.

(3) The Principal OSHA Investigator shall indicate that the employer must promptly post a copy of the written access order which does not identify specific employees by direct personal identifier, as well as post its accompanying cover letter (*See*, 29 CFR 1910.20(e)(3)(ii)).

(4) The Principal OSHA Investigator shall discuss with any collective bargaining agent and with the employer the appropriateness of individual notice to employees affected by the written access order. Where it is agreed that individual notice is appropriate, the Principal OSHA Investigator shall promptly provide to the employer an adequate number of copies of the written access order (which does not identify specific employees by direct personal identifier) and its accompanying cover letter to enable the employer either to individually notify each employee or to place a copy in each employee's medical file.

(f) *Objections concerning a written access order.* All employee, collective bargaining agent, and employer written objections concerning access to records

pursuant to a written access order shall be transmitted to the OSHA Medical Records Officer. Unless the agency decides otherwise, access to the records shall proceed without delay notwithstanding the lodging of an objection. The OSHA Medical Records Officer shall respond in writing to each employee's and collective bargaining agent's written objection to OSHA access. Where appropriate, the OSHA Medical Records Officer may revoke a written access order and direct that any medical information obtained by it be returned to the original recordholder or destroyed. The Principal OSHA Investigator shall assure that such instructions by the OSHA Medical Records Officer are promptly implemented.

(g) *Removal of direct personal identifiers.* Whenever employee medical information obtained pursuant to a written access order is taken off-site with direct personal identifiers included, the Principal OSHA Investigator shall, unless otherwise authorized by the OSHA Medical Records Officer, promptly separate all direct personal identifiers from the medical information, and code the medical information and the list of direct identifiers with a unique identifying number for each employee. The medical information with its numerical code shall thereafter be used and kept secured as though still in a directly identifiable form. The Principal OSHA Investigator shall also hand deliver or mail the list of direct personal identifiers with their corresponding numerical codes to the OSHA Medical Records Officer. The OSHA Medical Records Officer shall thereafter limit the use and distribution of the list of coded identifiers to those with a need to know its contents.

(h) *Internal agency use of personally identifiable employee medical information.* (1) The Principal OSHA Investigator shall in each instance of access be primarily responsible for assuring that personally identifiable employee medical information is used and kept secured in accordance with this section.

(2) The Principal OSHA Investigator, the OSHA Medical Records Officer, the Assistant Secretary, and any other authorized person listed on a written access order may permit the examination or use of personally identifiable employee medical information by agency employees and contractors who have a need for access, and appropriate qualifications for the purpose for which they are using the information. No OSHA employee or contractor is authorized to examine or

otherwise use personally identifiable employee medical information unless so permitted.

(3) Where a need exists, access to personally identifiable employee medical information may be provided to attorneys in the Office of the Solicitor of Labor, and to agency contractors who are physicians or who have contractually agreed to abide by the requirements of this section and implementing agency directives and instructions.

(4) OSHA employees and contractors are only authorized to use personally identifiable employee medical information for the purposes for which it was obtained, unless the specific written consent of an employee is obtained as to a secondary purpose, or the procedures of paragraphs (d)-(g) of this section are repeated with respect to the secondary purpose.

(5) Whenever practicable, the examination of personally identifiable employee medical information shall be performed on-site with a minimum of medical information taken off-site in a personally identifiable form.

(i) *Security procedures.* (1) Agency files containing personally identifiable employee medical information shall be segregated from other agency files. When not in active use, files containing this information shall be kept secured in a locked cabinet or vault.

(2) The OSHA Medical Records Officer and the Principal OSHA Investigator shall each maintain a log of uses and transfers of personally identifiable employee medical information and lists of coded direct personal identifiers, except as to necessary uses by staff under their direct personal supervision.

(3) The photocopying or other duplication of personally identifiable employee medical information shall be kept to the minimum necessary to accomplish the purposes for which the information was obtained.

(4) The protective measures established by this section apply to all worksheets, duplicate copies, or other agency documents containing personally identifiable employee medical information.

(5) Intra-agency transfers of personally identifiable employee medical information shall be by hand delivery, United States mail, or equally protective means. Inter-office mailing channels shall not be used.

(j) *Retention and destruction of records.* (1) Consistent with OSHA records disposition programs, personally identifiable employee medical information and lists of coded direct personal identifiers shall be destroyed

or returned to the original recordholder when no longer needed for the purposes for which they were obtained.

(2) Personally identifiable employee medical information which is currently not being used actively but may be needed for future use shall be transferred to the OSHA Medical Records Officer. The OSHA Medical Records Officer shall conduct an annual review of all centrally-held information to determine which information is no longer needed for the purposes for which it was obtained.

(k) *Results of an agency analysis using personally identifiable employee medical information.* The OSHA Medical Records Officer shall, as appropriate, assure that the results of an agency analysis using personally identifiable employee medical information are communicated to the employees whose personal medical information was used as a part of the analysis.

(l) *Annual report.* The OSHA Medical Records Officer shall on an annual basis review OSHA's experience under this section during the previous year, and prepare a report to the Assistant Secretary which shall be made available to the public. This report shall discuss:

(1) the number of written access orders approved and a summary of the purposes for access.

(2) the nature and disposition of employee, collective bargaining agent, and employer written objections concerning OSHA access to personally identifiable employee medical information, and

(3) the nature and disposition of requests for inter-agency transfer or public disclosure of personally identifiable employee medical information.

(m) *Inter-agency transfer and public disclosure.* (1) Personally identifiable employee medical information shall not be transferred to another agency or office outside of OSHA (other than to the Office of the Solicitor of Labor) or disclosed to the public (other than to the affected employee or the original recordholder) except when required by law or when approved by the Assistant Secretary.

(2) Except as provided in paragraph (m)(3) below, the Assistant Secretary shall not approve a request for an inter-agency transfer of personally identifiable employee medical information, which has not been consented to by the affected employees, unless the request is by a public health agency which:

(i) needs the requested information in a personally identifiable form for a substantial public health purpose,

(ii) will not use the requested information to make individual determinations concerning affected employees which could be to their detriment,

(iii) has regulations or established written procedures providing protection for personally identifiable medical information substantially equivalent to that of this section, and

(iv) satisfies an exemption to the Privacy Act to the extent that the Privacy Act applies to the requested information (*See*, 5 U.S.C. 552a(b); 29 CFR 70a.3).

(3) Upon the approval of the Assistant Secretary, personally identifiable employee medical information may be transferred to:

(i) the National Institute for Occupational Safety and Health (NIOSH) and

(ii) the Department of Justice when necessary with respect to a specific action under the Occupational Safety and Health Act.

(4) The Assistant Secretary shall not approve a request for public disclosure of employee medical information containing direct personal identifiers unless there are compelling circumstances affecting the health or safety of an individual.

(5) The Assistant Secretary shall not approve a request for public disclosure of employee medical information which contains information which could reasonably be used indirectly to identify specific employees when the disclosure would constitute a clearly unwarranted invasion of personal privacy (*See*, 5 U.S.C. 552(b)(6); 29 CFR 70.26).

(6) Except as to inter-agency transfers to NIOSH or the Department of Justice, the OSHA Medical Records Officer shall assure that advance notice is provided to any collective bargaining agent representing affected employees and to the employer on each occasion that OSHA intends to either transfer personally identifiable employee medical information to another agency or disclose it to a member of the public other than to an affected employee. When feasible, the OSHA Medical Records Officer shall take reasonable steps to assure that advance notice is provided to affected employees when the employee medical information to be transferred or disclosed contains direct personal identifiers.

(n) *Effective date.* This section shall become effective on August 21, 1980.

[FR Doc. 80-15390 Filed 5-21-80; 1:00 pm]

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## DEPARTMENT OF LABOR

## Occupational Safety and Health Administration

## 29 CFR Part 1928

[Docket H-112B]

## Access to Employee Exposure and Medical Records in Agricultural Employments

**AGENCY:** The Occupational Safety and Health Administration of the United States Department of Labor (OSHA).

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** This proposal extends the provisions of 29 CFR 1910.20, "Access to Employee Exposure and Medical Records" (published elsewhere in this part of the *Federal Register*), to agricultural employments. This proposal would therefore provide agricultural employees and their designated representatives with the right of access to relevant employer created or maintained medical and exposure records. Evidence presented at the rulemaking hearings on § 1910.20 indicated that access to records could be of significant occupational health benefit to agricultural employees. A thorough discussion of the justification for, and the issues raised by, this proposal may be found in the preamble to the final records access standard.

**DATES:** Comments must be submitted by August 21, 1980. Requests for a hearing must be submitted by June 23, 1980.

**ADDRESS:** Comments should be sent to: Docket Officer, Docket No. H-112B, Room S-6212, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (202-523-7894).

For additional copies of this notice contact the Publications Office, OSHA, Room S-1212C, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, 202-523-8677.

**FOR FURTHER INFORMATION CONTACT:** Dr. Flo H. Ryer, Office of Special Standards Programs, Room N-3663, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (202-523-7174)

**SUPPLEMENTARY INFORMATION:** OSHA has today promulgated a revised 29 CFR 1910.20 as a final standard entitled "Access to employee exposure and medical records." The standard was initially proposed on July 21, 1978 (43 FR 31371). Interested persons were given until September 22, 1978 to submit initial comments, and public hearings were held on the proposal in December, 1978 and January, 1979.

The standard generally provides that employees, their designated representatives, and OSHA shall have the right of access to relevant employee exposure and medical records made or maintained by employers. The standard does not require any employer to measure employee exposure to toxic substances or conduct medical surveillance of employees. However, if the employer undertakes these activities and makes records of the results, he is required under the standard to provide access for employees, designated representatives, and OSHA. The standard further provides that employee exposure records and analyses based on exposure and medical records must be kept for at least thirty years, and that medical records be kept for the duration of employment plus thirty years, although certain background data to the exposure records need only be kept for one year. (See, text of standard.)

As issued today, the final records access standard is applicable to employers in general industry, maritime and construction. It does not currently apply to agricultural employments. The purpose of this notice, therefore, is to propose the issuance of § 1910.20 as an agricultural standard, to be included as § 1928.20 of 29 CFR, so that agricultural employees have the same rights of access as other employees. If the agency decides after evaluating the comments received that § 1910.20 should be extended in its entirety to agricultural employers, this may be accomplished by simply modifying the "Scope and application" paragraph of 29 CFR 1910.20 to include agricultural employers, and also modifying Section 1928.21 to express the application of 29 CFR 1910.20 to agricultural employers. Necessary conforming amendments will also be made to existing agricultural standards such as the cotton ginning standard (29 CFR 1928.113).

Legal authority for this proposal derives from sections 6 and 8 of the Occupational Safety and Health Act (29 U.S.C. 655; 657). Section 6(b) of the Act authorizes the Secretary of Labor to promulgate, modify, or revoke by rule, any occupational safety and health standard. Section 6(b)(5) directs "the Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, (to) set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity \* \* \*". Sections 6(b)(7) and 8(c)(3) provide for employee or designated representative access to

medical records and exposure monitoring records required by occupational safety and health standards. Section 8(c)(1) provides for OSHA access to records relevant to the Act. Section 8(g)(2) authorizes the Secretary to prescribe such rules and regulations as he may deem necessary to carry out his responsibilities under this Act.

During the rulemaking proceeding on the records access standard, several participants commented on the implied exclusion of agriculture. The Migrant Legal Action Program, Inc., (MLAP) (Docket H-112, Ex. 154) and the Health Research Group (HRG) (Docket H-112, Tr. 2032-4; Ex. 161) argued that agricultural workers should be included within the scope of a records access standard, since there is no rational basis for not doing so. MLAP stated that "the burden on the agricultural employer would be no greater than it would be for any other employer," while "the value of the regulation for farmworkers would be great." (Docket H-112, Ex. 154, p. 2). The AFL-CIO also supported this position (Docket H-112, Ex. 152, p. 32).

Both MLAP and HRG observed that agricultural employment is one of the most hazardous occupations:

Nationwide, in 1977, there were an estimated 1800 accidental work-related deaths in agriculture. Fourteen percent (14%) of all work-related deaths occur in agriculture, and the annual death rate in agriculture is 53 per 100,000 workers. In 1977 one of 20 farmworkers suffered a disabling injury. This makes agriculture the third most hazardous industry in the United States, surpassed only by construction and mining/quarrying. (MLAP, Docket H-112, Ex. 154, p. 1)

HRG noted that farmworkers are often exposed to pesticides and other toxic substances during the course of their employment (Docket H-112, Tr. 2033). HRG also stated:

Rarely if ever do farmworkers know the nature or extent of these exposures. And if a farmworker were to ask a labor contractor or grower for records which shed light on these exposures, the records would likely be destroyed and the farmworker fired.

Without rules requiring agricultural employers to retain and disclose exposure and medical records, farmworkers will surely be denied the right to know about health hazards in their workplaces. (HRG, Docket H-112, Tr. 2033)

MLAP further stated that the need for farmworker access to exposure and medical information is reinforced by the limited resources of OSHA to inspect agricultural worksites (Docket H-112, Ex. 154, p. 2, 3).

OSHA finds MLAP's and HRG's comments to be persuasive. However,